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CHILD CARE BY DESIGN

*A handbook for the planning and design
of Child Care Centers in Massachusetts*

A Publication of the
Commonwealth of Massachusetts
Executive Office of Administration and Finance

Division of Capital Planning and Operations
Office of Programming

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Division of Capital Planning and Operations

Gordon B. King, Acting Commissioner

Office of Programming

Chris Pilkington, Director

Brian McMorrow, Deputy Director

Cathy Ries Neal, Child Care Project Director

Archetype Architecture, Inc.

Joel Bargmann, AIA, Principal

Amir Degany, Technical Coordinator

Thomas J. Wallinga, Design & Production

Schreiber Associates, Landscape Architecture Consultant

Rick Swartz Communications, Editing Consultant

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Fran Barrett, Director

Group Day Care Licensing, Massachusetts Office for Children

Lucy Hudson, Project Director

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Lisa Monahan, Architect

Mav Pardee, Partner

Mills and Pardee, Inc.



*Boston, Massachusetts
May, 1993*

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FORWARD

What is the best arrangement for child care? Child care centers can provide an appropriate setting for the care of young children. Elements of a successful center include a well-trained staff, a curriculum which respects every child and an affordable program in a convenient location.

Identifying an appropriate site, and designing and constructing a physical environment which is stimulating yet secure, is equally fundamental to quality child care. As the state agency responsible for planning, design, and construction of state facilities, the Massachusetts Division of Capital Planning and Operations (DCPO) is a strong advocate for child care, and believes it can contribute to the discussion.

DCPO has a longstanding commitment to quality design in child care facilities. In 1987, the agency first printed a handbook initially intended for use in planning on-site centers at state institutions. Since that year, the document has been revised often to reflect changes in building codes and design standards, and as we learn more about the unique needs of children being cared for in centers. The handbook has proven a useful resource for the private and well as the public sector.

This edition of the Child Care Handbook is the culmination of earlier editions. As such, it offers a thoughtful presentation for all the parents, providers, employers, and design professionals involved in the critical process of creating child care. In addition to providing the latest information on the planning and design requirements for centers, this edition offers guidelines for outdoor play areas, a comprehensive review of the latest code requirements, and a discussion of construction costs.

DCPO is committed to the importance of quality child care for the Commonwealth's youngest citizens. It is our hope that this publication will be valuable to those who share our goals.

*Cathy Ries Neal
Child Care Project Director
May 1993*

INTRODUCTION

The *Child Care By Design Handbook* is written to provide assistance to individuals, agencies and institutions of the Commonwealth of Massachusetts interested in establishing child care centers. The organization of the *Handbook* follows the sequence one pursues in the creation of a child care center. Chapters are devoted to particular steps in the process with headings specifically defining the contents. The *Handbook* is intended to be used either sequentially as a "road map" to the process of creation or as stand alone reference sections providing information regarding particular issues, which include the following:

Assessing the Need:	Standards for determining the need and size of a prospective center;
Planning & Regulations:	Rules and requirements used to establish space and site needs;
Selecting a Location:	Factors which help a user select a location that is adequate for needs and size;
Designing the Outdoors:	The design criteria for outdoor play areas;
Utilizing Prototypes:	Standard child care center programs and layouts which may be used;
Estimating the Cost:	Guidelines & estimating methodologies to identify development costs;
Room Data Sheets:	Specific design criteria for each room in a prototypical child care center.

DETERMINING THE NEED FOR A CHILD CARE CENTER

Determining the Need
Child Care Survey Form

DETERMINING THE NEED FOR A CHILD CARE CENTER

This chapter describes methodologies an agency can employ to determine whether an on-site center is justifiable. The essential factors to consider are the demand for child care among employees and the availability of existing child care options.

Determining the Need

Two steps are necessary to determine need:

1. predicting the center's utilization based upon the percent of employees likely to need child care based on historical data, and
2. verifying those needs based on actual surveys:

Step One

For purposes of preliminary planning, it is possible to approximate the number of employees' children an institution can expect to require child care. These multipliers are based upon surveys conducted by state agencies and are supported by the experience of planners for child care centers in both the public and private sectors.

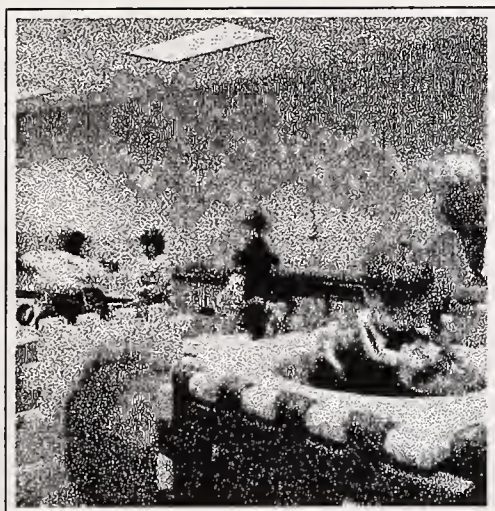
The planner's rule of thumb indicates that approximately 6% of the employees at a workplace will need day care for their children. (The number of employees used in this calculation may include workers from neighboring institutions who can be anticipated to use the center.)

The multiplier is not constant. At institutions of higher education, for example, the need for child care averages only 1% to 2% of the student population because students are less likely to require child care. On the other hand, the figure may be higher at a community college where there are more older and working students than at state colleges.

Step Two

Individual circumstances will dictate the actual need for child care in a specific location. Therefore, to provide more thorough evidence, a survey must be circulated among employees, students, and/or potential users. Agencies have found that a survey distributed with employees' paychecks works well. (A sample survey form is included in this chapter. The survey will provide quantifiable data regarding your actual user base.)

As a final step in determining need, contact the local child care resource center and referral agency (CCR&R) to identify the availability of child care in your area. If reliable, quality child care services are reasonably available, you may choose to plan a smaller center than the estimated demand.



*Ratios suggest there may be a child care need of **60 children for every 1,000 workers** in the typical workplace but less than half that need at state colleges. At some institutions, again using the State College example, one will need to apply the ratios among divergent population groups, including both employee and student populations, to arrive at an accurate approximation of the need.*

CHILD CARE NEEDS ASSESSMENT

1. Please list the month and year of birth for each child(including any children you anticipate in the next three years):

<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> _____
<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> _____

2. What are your present child care arrangements? Please check off all kinds of care you use.

<input type="checkbox"/> child care center	<input type="checkbox"/> family child care home
<input type="checkbox"/> nursery school	<input type="checkbox"/> before/after school center
<input type="checkbox"/> relative	<input type="checkbox"/> in-home babysitter

3. What do you pay per hour for child care? Please specify the amount per child, following the order listed in item 1 above.

<input type="checkbox"/> \$/hour	<input type="checkbox"/> \$/hour	<input type="checkbox"/> \$/hour
<input type="checkbox"/> \$/hour	<input type="checkbox"/> \$/hour	<input type="checkbox"/> \$/hour

4. Please check off the category for the total income of your household:

<input type="checkbox"/> Under \$15,000	<input type="checkbox"/> \$40,000 - \$50,000
<input type="checkbox"/> \$15,000 - \$22,000	<input type="checkbox"/> \$50,000 - \$60,000
<input type="checkbox"/> \$22,000 - \$28,000	<input type="checkbox"/> \$60,000 - \$75,000
<input type="checkbox"/> \$28,000 - \$35,000	<input type="checkbox"/> Over \$75,000
<input type="checkbox"/> \$35,000 - \$40,000	

5. In your experience, is there an adequate supply of child care within a convenient distance from your site?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Don't Know
------------------------------	-----------------------------	-------------------------------------

6. If a child care center opened at your location, would you enroll your child(ren)?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

7. Would you need some form of tuition assistance that covered a portion of the cost?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

8. If you were to enroll your child(ren), please indicate the schedule you would be interested in:

<input type="checkbox"/> Full Time (5 days per week for at least six hours each day)
<input type="checkbox"/> Part time: _____ hours per day _____ number of days each week

9. If you were to enroll your child(ren), please indicate the birth dates of children who would require care:

<input type="checkbox"/> planning a pregnancy within two years	<input type="checkbox"/> infants (4 wks-15 mths)
<input type="checkbox"/> toddlers (15 mths-33mths)	<input type="checkbox"/> preschoolers (33mths-6 yrs)

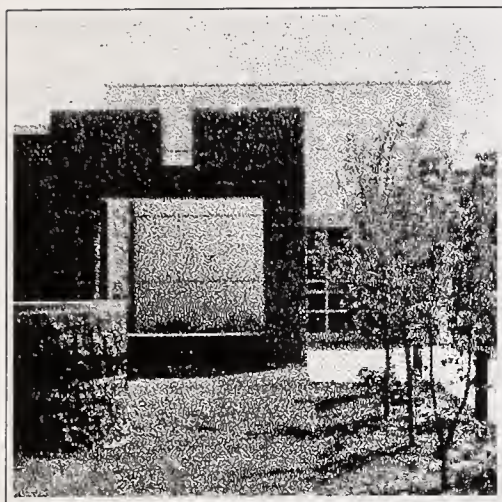
10. Rank the types of child care in their importance to you (1 = most , 4 = least)

<input type="checkbox"/> regular child care during working hours	<input type="checkbox"/> for mildly ill children
<input type="checkbox"/> school-age children before or after school day and/or during vacations	
<input type="checkbox"/> in the event that your regular child care was unavailable	

PLANNING A NEW CHILD CARE CENTER

Establishing Ratios
Number of Children in a Center
Area Requirements Per Child

PLANNING A NEW CHILD CARE CENTER



*Once the need for a child care center has been established, the next step is planning the required interior and exterior spaces. Basic planning is based upon both legal and human needs criteria that control the physical size of the required spaces. Licensing codes establish certain minimum standards and thresholds for regulating the size and requirements of a center. Substantial additional information is available about the design and construction of child care centers extending beyond these **minimum** code requirements. The Handbook seeks to facilitate planning that will make the centers as affordable and available as possible, including methods for:*

- *Establishing student-teacher ratios.*
- *Identifying space requirements.*
- *Configuring the space layout.*
- *Defining health and safety standards.*

Establishing Ratios

Various codes establish two ratios that control the area requirement of day care centers.

1. Area per child
2. Children per care provider

Age Group Categories

For regulatory purposes, children are defined in groups as follows:

Infant:	1 to 15 months
Toddler:	15 months to 2 years, 9 months
Preschool:	2 years, 9 months to 4 years, 9 months
School Age:	4 years, 9 months, to 7 years

The ratios established by the Massachusetts Office for Children, the state agency that licenses child care in the Commonwealth, for numbers of *children and staff* in specific groups are described below.

Infant:	There may be no more than seven infants in one infant group with one staff person for every three infants, or two for every seven.
Toddler:	No more than nine toddlers may be included in one group, with one staff person for every four toddlers, or two for every nine.
Preschool:	The maximum size of a preschool group is twenty children. One staff member is required for every group of ten or fewer children.

School Age: The maximum for the school age user group is thirty with one staff for every fifteen or fewer children in the group. With a separate license there is no limitation on group size.

Combining Age Groups

In some situations it may be desirable to combine age categories within one group. Allowable grouping categories and sizes are listed below.

Infant and Toddler: If infants and toddlers are mixed, user group size cannot exceed nine, with no more than three infants in the group and one staff person for the first three children and two staff for four to nine children.

Toddler & Preschool: If toddlers and preschoolers are mixed, the size cannot exceed nine, with one staff for every four toddlers and one for every ten preschoolers.

Combining pre-schoolers with infants into a single group is not allowed.

Number of Children in a Center

The most common center in State institutions contains one group of infants (7), one of toddlers (9), and one of preschoolers (20). This totals 36 children and is the basic prototype illustrated in this manual. However, to be economically viable without a major subsidy, most child care professionals agree that child care centers must have a capacity of between 50 and 75 children.

The prototype in the *Handbook* includes recommended activity areas and support functions (e.g. bathrooms and kitchens), circulation, and building structure. In situations where child care for more than 36 children is needed, the basic prototype can be modified by adding additional activity areas.

Area Requirements Per Child

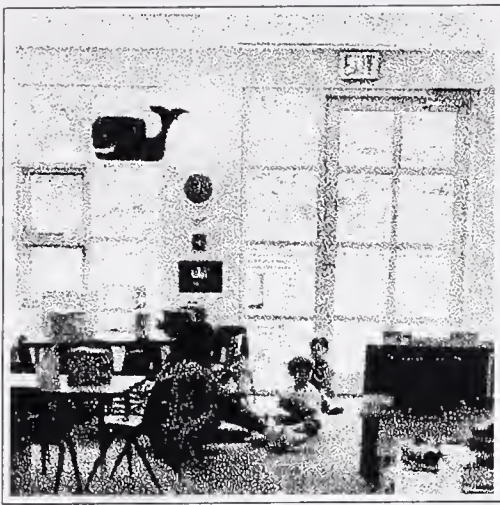
The spatial size of a child care center (inside architectural dimensions and outside activity areas) is regulated by State codes and guided by recommended standard practices. Chapters V and VI discuss space requirements and design in greater detail. As a planning measure however, the number of children to be accommodated determines the basic amount of space that must be provided. A balance between available space and demand may be necessary, with the number of children to be served adjusted accordingly.

The rule of thumb is to provide a minimum 95 square feet of interior space per child.

Program Space Classifications

To provide a high quality child care program that serves children's developmental needs, an appropriate amount of indoor space per child is required.





Spaces for a child care center are of three types: Primary Activity Space, Assignable Space, and Non-Assignable Space.

Primary Activity Space:

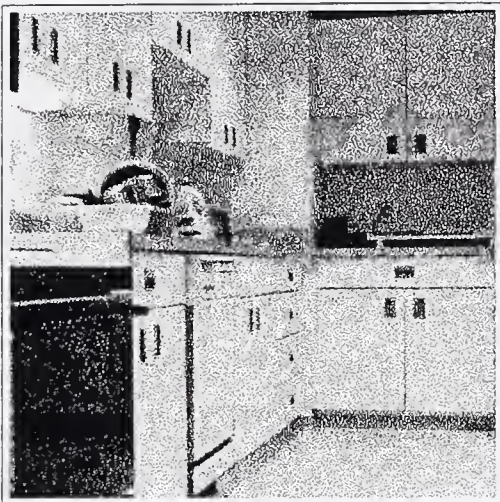
The space required for activities is the basic foundation on which child care space regulations are determined. Activity space covers approximately 35% of the program area.

Assignable Space:

Assignable space supports children's activities, such as the administrative office, staff lounge, gross motor room and similar spaces required to run the center. Assignable space covers approximately 25% of the program area.

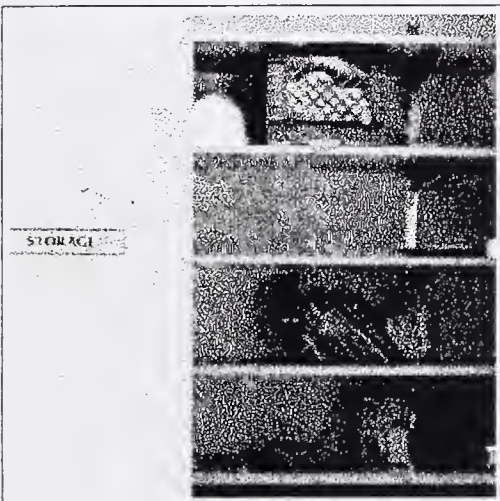
Non-Assignable Space:

Mechanical rooms, storage spaces and the like which support the building or space as a whole without having a particular program function *per se* are considered non-assignable space, approximately 15% of the program area. Circulation spaces cover approximately 15% to 20% of the program area. Building bulk (partitions and walls) cover approximately 5% to 10% of the program area. The total space for this category is approximately 40% of the program area.



Minimum Area Requirements

Past analyses of density and social behavior among children (Prescott and David, 1976), revealed that high density (under 30 sf/child of child activity space) produced aggression and less relevant social involvement, while low density (over 50 sf/child of child activity space) instilled random behavior and low interaction. Densities of 40 to 45 square feet per child maximize positive interaction. Gary T. Moore (1979) recommends 42 sq. ft. per child minimum for quality child care.



The total required site space per child is based on a 36-child center, in a new freestanding building, on flat site, adjacent to an access road. Child care centers with less capacity will normally require more site area per child. Larger child care centers or child care centers within buildings of other use may require less total site space per child.

The following tables describe, by category, the minimum space requirements of a child care center based on the Office for Children's area requirements for child activity and outdoor space:

1. Building space needs per child are as follows:

Child Activity Space	35 sf per child
Assignable Space	25 sf per child
Non-Assignable Space	<u>35 sf per child</u>
Minimum Gross Building Space	95 sf per child

Spaces within centers are classified as Primary Activity Space, Assignable Space, and Non-Assignable Space as shown in the photographs above.

2. Outdoor space needs per child (within zoning set back requirements):

Child Activity Space	75 sf per child
Outdoor Storage Space	3 sf per child
Planting and unusable edge Space	15 sf per child
Furnishing and circulation (Flat site)	<u>2 sf per child</u>

Minimum Gross Outdoor Play Space (flat site) **95 sf per child**

Gross outdoor play space on sloped site
(up to 8%) 105 sf per child

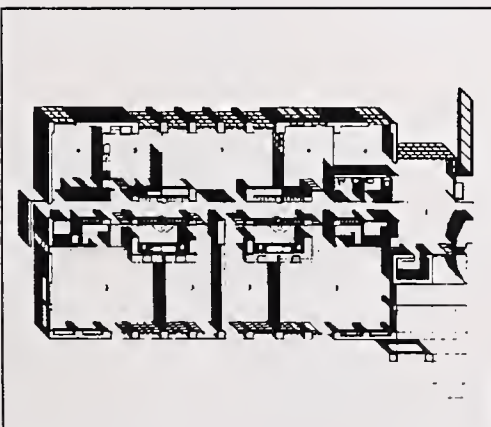
3. Site Development

Drop-off, circulation and parking **220 sf per child**

Total space needs per child are as follows:

/ Gross building (new)	95 sf per child
/ Gross outdoor play space (flat)	95 sf per child
Site Development	<u>220 sf per child</u>

TOTAL MINIMUM SITE SPACE **400 sf per child**



CODE AND REGULATORY REQUIREMENTS

Overview of Code Requirements
Checklist of Codes and Regulations
*Sample Code Analysis for the Prototype
Child Care Center
Licensing of Child Care Centers*

CODE & REGULATORY REQUIREMENTS

This chapter will alert users to the complexity of code requirements and highlight some of the most significant code issues which pertain to the preliminary planning of a center.

Excerpts of sections from pertinent codes are included in the Appendix under "Code Reviews," including Section 633.0, "Day Care Centers" of the State Building Code, and the full text of the Office for Children regulations concerning child care facilities.

The included codes are current as of 1992. Changes in the codes do occur, and it is recommended that up-to-date copies be obtained from the State House Book Store located at the State House in Boston.

The Handbook does not contain a complete listing of all codes relevant to child care centers. Conformance is also required to all pertinent Federal Regulations, such as the Americans with Disabilities Act, and to pertinent sections of the State Building Codes, including the Plumbing, Electric, Fire Prevention Codes and Department of Public Health Regulations. Local codes, such as conservation commission guidelines, may affect the siting of buildings and the sitework portions of the work. Assistance from an architect in determining applicable code and interpreting them may prove helpful.

Overview of Code Requirements

As with all construction projects, child care centers are regulated by general building and access codes. In addition, there are specific child care regulations which must be followed. The relevant state codes affecting overall planning are:

The Massachusetts State Building Code

The Architectural Access Board Regulations

The Office for Children Regulations

The Massachusetts State Building Code

Child care centers must comply with Section 633.0, "Child Care Centers", of the Massachusetts State Building Code, and possibly other sections as well. It is recommended an architect be consulted to determine whether a potential space or a planned child care center is in full compliance. Section 633.0 is discussed further in the next section and a sample analysis based on the 36 child prototype center is included.

THE MASSACHUSETTS STATE BUILDING CODE

Fifth Edition

780 CMR

COMMONWEALTH OF MASSACHUSETTS

Published by
Michael J. Connolly
Massachusetts Secretary of State



Architectural Access Codes

Child care centers are “public buildings” and are categorized as “educational institutions” by the Massachusetts Architectural Access Board, a state agency charged with enforcing the state’s accessibility statutes and regulations. All areas of the center, including support spaces (such as administrative or toilet facilities and site areas such as playgrounds) must be freely accessible to people with physical disabilities.

Regulations of the Office for Children and the Americans with Disabilities Act also include requirements for making the spaces accessible. In the event contradictory requirements among the codes, the most stringent requirement should be followed. In the event a proposed center determines it cannot comply with MAAB code, it must seek a variance from the Board.

Office for Children Codes

The Massachusetts Office for Children (OFC) is the state agency responsible for promulgating regulations designed to protect the health and safety of children. These regulations cover the administration of child care centers, health and safety procedures, staff requirements and patterns, program services and procedures, physical facility and equipment. Centers must comply with the OFC regulations to receive a license to provide child care services. Office for Children regulations (102 CMR 7.00) apply to both new construction and renovation. We have chosen to excerpt sections related to architectural issues, as related to the age groupings and schedules generally utilized for child care centers.

CHECKLIST OF CODES AND REGULATIONS FOR DESIGN

The following is a cursory checklist and description of code requirements which can be used in the planning stages. The planner is directed to the appropriate codes and sections in order to determine if a space is feasible for use as a child care center and to establish basic levels of build out.

State Building Code

Item	Description	Section Number
1.	Use Group <i>Initially one must determine each type of occupancy (use group) in a building. The use group establishes requirements or limitations upon which the building must comply.</i>	633 & 610
	Determine if a space is high hazard	306.0
	Definition of low and moderate hazard	310.0
2.	Construction Classification <i>Another key code condition is the determination and classification of a building in order to determine its ability to provide an adequate level of fire protection.</i>	401.0 & Table 633

For a child care center in an existing building, determine the construction classification of the overall structure, the allowed placement and the required fire protection of the child care center space within the building.

For a new, freestanding child care center, determine the appropriate construction type.

3. **Mixed Use** 313.0
This section sets the rules of how two or more use groups share a building

Child care in a facility 313.1 item 2, and 633.13
 Fire separation 902.0 & Table 902



4. **Area Limitations** Table 501 note
Establishes the basic allowed floor area of a building for each use, depending upon the construction classification of the building.

5. **Location Limitations** Table 633
Sets the permitted location of a child center vertically within a building (i.e. floor level) depending upon the construction classification of the building and the provision of a sprinkler system.

6. **Placement Requirements** 633.5 & 633.6
This section describes additional requirements and conditions for the physical placement of the child care center within a building.

7. **Egress Requirements** 633.5 & 633.6
These sections are used to determine the placement, layout and size of corridors, doors and exits in response to the building construction classification and the age groups for which the center provides care.

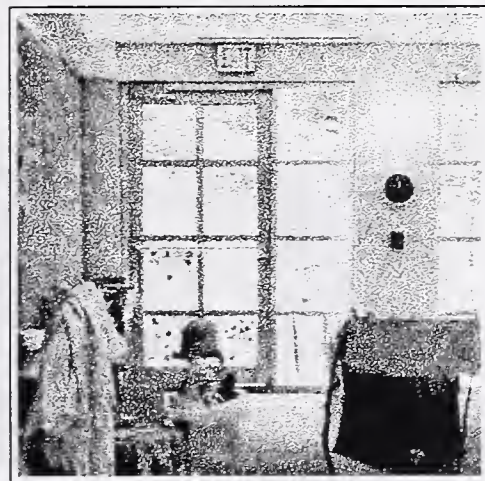
Space & rooms of center 633.7
 Occupancy loads 806.0
 Length of egress travel 807.0
 Capacity of egress elements 808.0

8. **Fire Protection** 1002.0
These sections determine the requirement for sprinklers in the center.

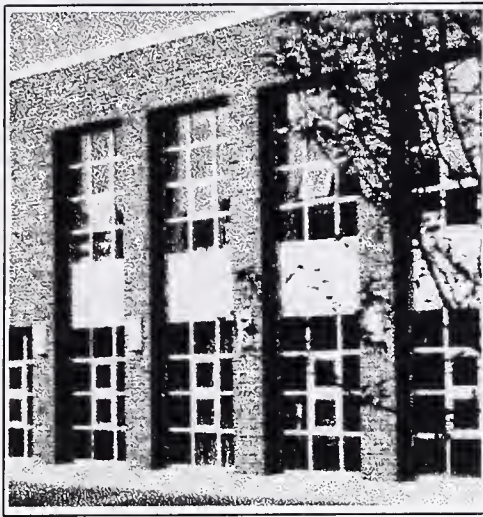
Center in various construction types Table 633
 Specific I-2 use areas Table 610.2

9. **Fire Resistance of Construction** 400.0
The various components of a building, e.g. columns, beams, etc., have requirements for fire resistance. Depending upon the building construction type and the age groups of children within the center, this section establishes those resistance ratings.

For type of construction Table 401
 Child care special requirements 610.2 & 633.13



Mixed Use Classifications and Egress Requirements for corridors, doors, and exits play a significant role in the design of Child Care Centers.



10. **Fire Resistance of Materials** Article 9
These standards determine which materials and finishes are allowed for a child care center, depending again upon the overall classification of the building.

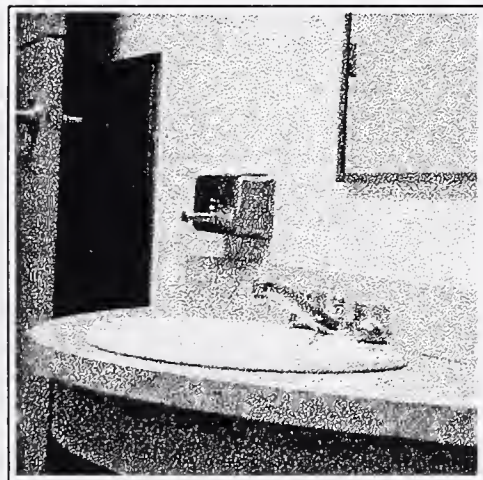
Fire grading of use groups	Table 902
Interior finish classification	Table 904
Interior finish requirements	Section 922
Exterior walls	906.0
Fire separation walls	910.0
Smoke barriers	911.0
Floor/roof/ceiling	913.0

11. **Light and Ventilation** Article 7
The minimum standards for windows, glazing, lighting and ventilation are described in this section.

Natural & artificial ventilation	706.0 & 707.0
Natural & artificial light	704.0
Toilet room lighting	703.0

12. **Mechanical Requirements** Article 25
This section establish separation requirements and protection from heating equipment and the boiler room from the remaining spaces of a center. The Massachusetts Fuel, Gas and Plumbing Code determines the design requirements of the appropriate equipment.

Reverts to Fuel Gas Code	
Heating system	633.8
Boiler room	633.9



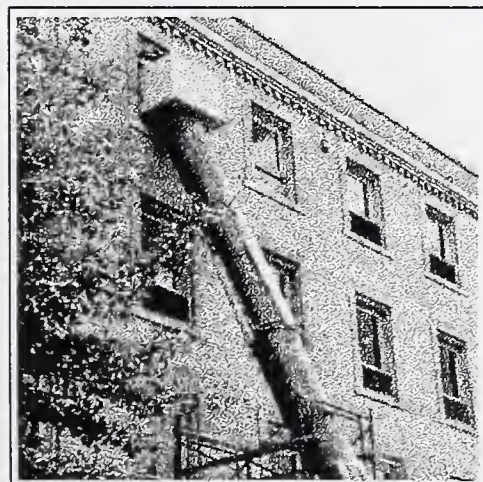
13. **Sanitation** Article 28
The designer utilizes the Massachusetts Fuel, Gas and Plumbing Code to determine the quantity, type and design requirements of the plumbing fixtures and equipment.

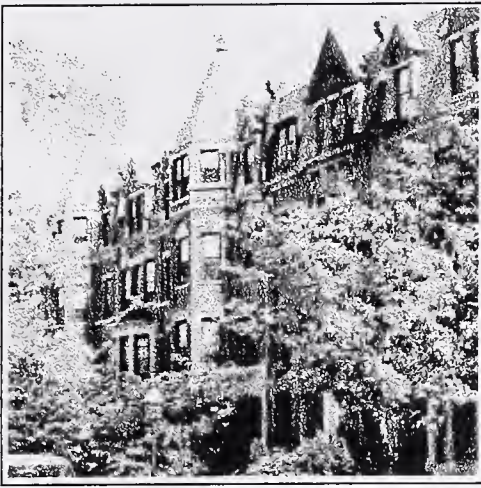
14. **Roof Use Requirements** 633.1
If a child care center intends to utilize the roof of a building, this section will set the condition which must be met.

Roof egress	633.7.3
-------------	---------

15. **Existing Building Reuse** Article 32
Determines the applicability of the various code sections to a child care center planned for an existing building

Applicability	633.2
Hazard index	Table 3204
New systems	3203.3
Egress exits	3203.8, 32.3.9, 3203.10, 3204.6
Fire alarm	3203.11
Change of hazard index	3203, 3204, 3205
Revert to standards for new construction	3203.16
(Section 3203.4 is not applicable to child care centers)	





16. **Historic Buildings** 635.0
If a child care center is planned for a historic structure, this section identifies compliance.
17. **Accessibility for the Physically Handicapped** 512.0
Describes the basic accessibility requirements for the occupancy use groups.
18. **Miscellaneous**
There are other general requirements, such as design for energy conservation or other building requirements not particularly related to child care centers but to the building in general.

Handicapped Accessibility Regulations

Access to buildings and use of spaces by physically handicapped users are covered by several State and Federal codes.

- | Item | Description | Section Number |
|------|--|----------------------|
| 1. | Architectural Access Board
<i>These regulations set standards for accessibility to public buildings by the physically disabled. Part B-12 identifies pre-school and child care facilities as educational institutions. Parts C and D of the regulations determine the site and architectural design requirements.</i>

<i>The Architectural Access Board regulations are not tailored to children's dimensional requirements. Therefore, variances will be required to approve the use of items such as a children's 10 inch high accessible toilet, height of railings at stairs, and other issues.</i> | 521 CMR |
| 2. | Office for Children
<i>This section includes the physical access requirements set by the OFC. These requirements should not be taken as the only requirements one needs to comply with in designing a child care center. Some OFC physical requirements differ from other regulations. In general, the more stringent requirement is applicable. However, if a design for a children's space requires a dimension that is not covered or allowed by the other regulations, the facility may need to obtain a variance.</i> | 102 CMR 7.11 (14-24) |
| 3. | Americans with Disabilities Act
<i>Federal regulations were established to prohibit discrimination on the basis of disability. Title II of the Act covers programs, activities and services of public entities, including state agencies.</i>

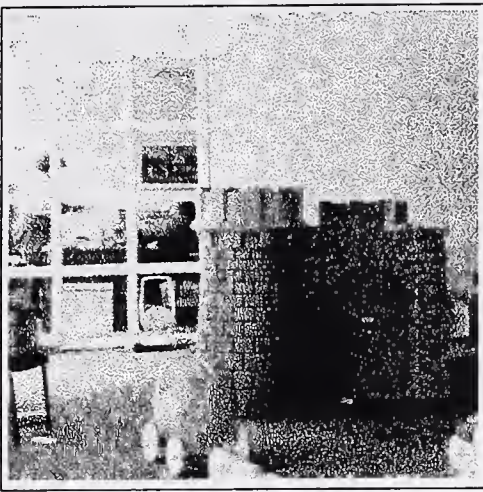
<i>Title III of the Act describes the design requirements related to providing accessibility to places of "public accommodation" which are owned, leased or operated by a private entity.</i>

<i>A child care center operated by a private entity is by definition a public accommodation.</i> | ADA Part III |

Office for Children (OFC) Regulations

OFC standards and regulations must be adhered to by all child care centers, including state facilities. The standards were developed to assure that every child (including children with special needs) will have a “fair and full opportunity to reach their full potential”.

- | | | |
|----|---------------------------------------|---------------|
| 1. | Group Day Care Centers | 102 CMR 7.00 |
| | Physical requirements of the facility | 7.11 |
| 2. | School Age Child Care Programs | 102 CMR 11.00 |
| | Physical requirements of the facility | 11.08 |



SAMPLE CODE ANALYSIS FOR THE PROTOTYPE CHILD CARE CENTER

At the time of this document's publication, the following codes and standards were applicable to the improvements of a space for use as a child care center. This analysis was prepared for a specific project; it is not a universal analysis for all centers. Its depth, however, provides a reasonable understanding of the issues for prospective start-ups.

Codes & Regulations

Massachusetts State Building Code, 780 CMR, Fifth Edition

Massachusetts Fuel, Gas and Plumbing Code, 248 CMR

Massachusetts Electric Code, 527 CMR 12.00

Massachusetts Fire Prevention Requirements, 527 CMR

Standards for the Licenser or Approval of Group Day Care Centers

Office for Children, 102 CMR 7.00, 1990 Edition

Massachusetts Architectural Access Board Regulations 521 CMR

Massachusetts Department of Public Health 105 CMR

The Americans with Disabilities Act - Title III Public Accommodations

Massachusetts State Building Code

The following summarizes requirements of the Massachusetts State Building Code. The code section number precedes a description of the requirement.

Use and Construction Type

304 & 307	Infants & toddlers are in I-2 Use Group (institutional, incapacitated) Preschoolers & older are in E Use Group (educational uses) Administrative spaces total less than 10% of the floor area of the center. As such, the space is considered "incidental", and its "use" does not need to be separated from the main use.
403	Construction type - 2A (noncombustible) varies for different spaces

Height and Area

Tables	Height and area limitations
501 & 633	<i>Building height:</i> 4 stories <i>Building area:</i> 32,490 SF (includes modification for sprinkler system and area reduction for height)

Fire Resistance Ratings

313.4

Fire separation: The I-2 use is an incidental use in that it is supplemental to the main use of the space and it occupies no more than 10% of the actual floor area or allowable floor area of that use. I-2 incidental uses do not need fire separation from the main use *except as may be required by building construction types or by sections 610 and 633.*

Table 401

Fire resistance requirements: for type 2A structures (non-combustible):

Exterior non load bearing wall fire separation of 30' or more: 0 hour.

Fire separation assemblies: 2 hours, constructed to underside of floor deck above.

Stairways and exitways: 2 hours

Interior load bearing elements: 2 hours

Exit corridors: 1 hour (constructed to underside of floor deck above)

Floor and ceiling construction including beams: 1.5 hours

Kitchen separation wall: 0 hour when constructed to underside of floor deck above

610&633.13

Construction Separations Between Spaces:

Child care and adjacent space below: 2 hrs

Child care and usable space below: 2 hrs

Child care and usable space above: 1 hr, or the floor above shall be equipped with smoke detectors connected to the center's alarm system.

Occupancy Load and Means of Egress

806

The occupancy load of a space is the total number of people who are permitted to occupy the space at any one time. Occupancy is established using the largest number of occupants as computed by table 806, or by using the actual number of occupants.

	<i>children</i>	<i>staff</i>	<i>occupants</i>
<i>Pre-schoolers</i>	20	2	22
<i>Toddlers</i>	9	2	11
<i>Infants</i>	7	2	9
<i>Administration</i>	0	2	2

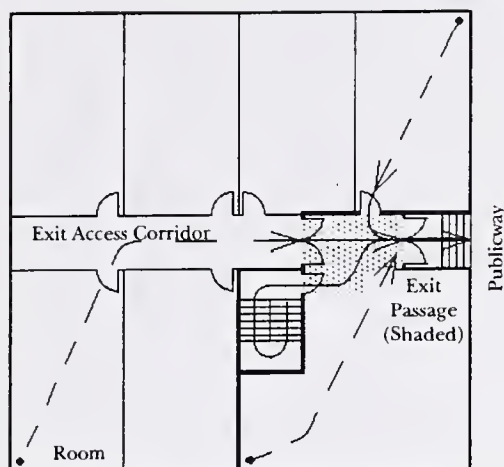
Total Allowable Occupancy for Prototype 44

807

Length of travel to an exit is 200 feet, assuming that the space is sprinkled (*see Figure #2*).

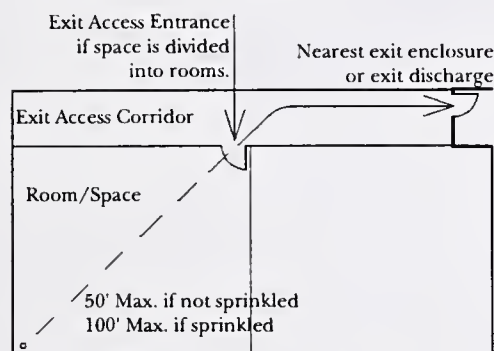
808

Capacity of exit doors and corridors shall be calculated as per 0.5" per person, but not less than the minimum width for each component as described below.



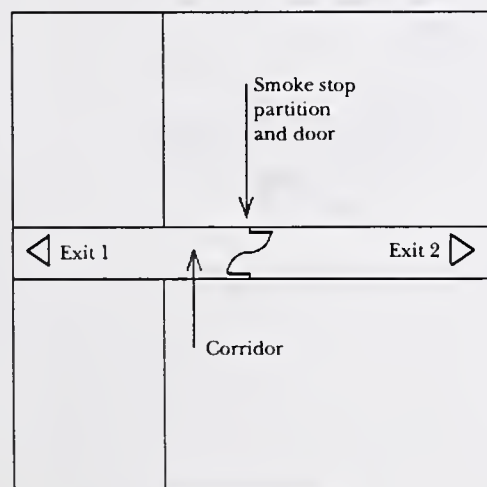
**Means of Egress Example
Figure #1**

- Exit Access
- Exit
- Exit Discharge

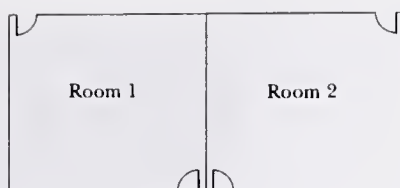


**Length of Travel to an Exit
Figure #2**

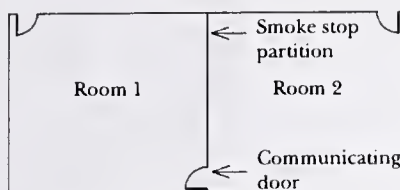
- Egress Travel in Room
- Exit Access Travel



**Common Corridor Used for
Exitway Access
Figure #3**

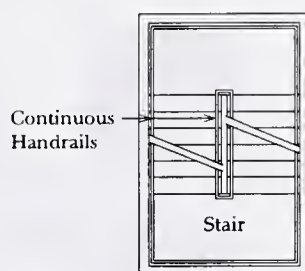


Option 1

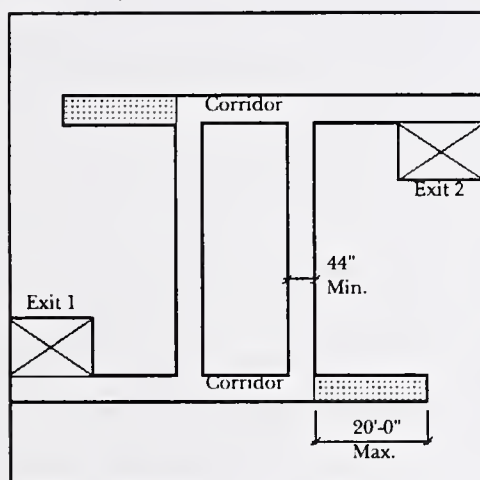


Option 2

**Room Egress Options
Figure #4**



**Handrail Requirements
Figure #5**



**Dead End Corridors
Figure #6**

633.7.2

Each floor shall have not less than two approved independent exitways as remote as possible from each other. In a sprinklered building of type 2A and 2B construction, a single common corridor may provide access to the two means of egress (*see Figure #3*).

Smoke stop doors as shown on the diagram and partitions are constructed to stop passage of smoke from one space to an adjacent space, in compliance with section 911.0 of the Massachusetts State Building Code.

633.7.2.3

Each occupied room shall have two approved means of egress, independent and as remote from each other as possible. One such required egress may be by a communicating door between adjacent rooms (*see Figure #4*).

633.7.6

Handrails on required egress stairways shall be double handrails on both sides of the stair, running continuously along steps and landings (*see Figure #5*).

Upper rail height shall be not more than 33 inches, and not less than 30 inches as measured above the nosing of the treads.

Lower rail height shall be approximately 20 inches as measured at the face of the riser.

Section 828 of this code and the Architectural Access Board require that the upper rail of an accessible exit stair be placed 34 inches above the nosing of the stair, not as specified in this section. For a stair which is utilized by both a child care center and other uses (such as at a state college building), a variance may be required to achieve compliance.

810 & 811

Corridor requirements

The maximum dead end corridor length is 20 feet.

The minimum corridor width is 44 inches.

The minimum ceiling height at the discharge exit level is 8 feet. (*see Figure #6*)

823

Exit signs and exit lights in rooms or spaces requiring more than one exit, shall be provided and illuminated by not less than 5 foot candles at the surface of the sign. Lighting shall be provided with an approved emergency power source.

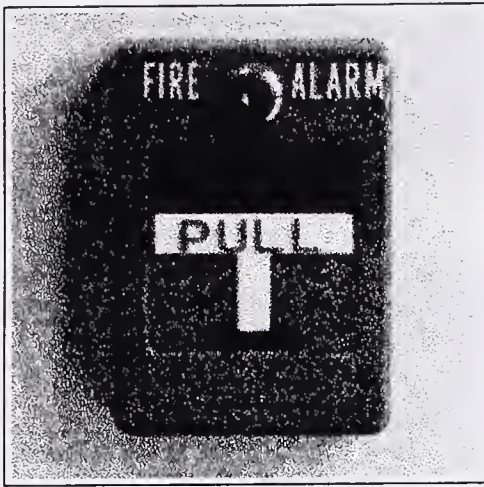
824

Emergency lighting shall be provided at all means of egress for a duration of one hour with illumination intensity of 1 foot candle at floor level.

Fire Suppression and Alarm

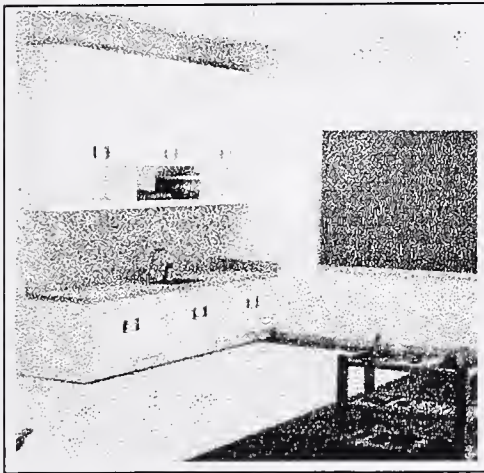
1002

Fire sprinklers are not required by code. However, they are generally provided throughout the entire building space. There are advantages to using sprinklers, such as increasing the length of the exit access way (*see 807 above*).



- 633.11 **An audible automatic fire alarm** is required. The automatic fire alarm system shall consist of an approved smoke detector system and shall be provided with back-up emergency power. One manual alarm station is also required.
- 633.15 **Direct communication** shall be provided from each room in the child care center to the fire command center. This may consist of a direct wire sensor or other device approved by the building official.

Interior Finish Materials



- 922 **Interior finishes** ratings may consist of (assuming use of an approved sprinkler system):
- | | |
|-------------------------------------|---------|
| Exitways and passageways: | Class 2 |
| Corridor exits: | Class 2 |
| E use rooms (preschool) : | Class 3 |
| I-2 use rooms (infants & toddlers): | Class 2 |
- Floor covering:** resilient flooring, 1/4" thick maximum, is acceptable without testing unless otherwise determined to be hazardous by the local building official.
- Carpet:** shall be Class 2, to satisfactorily withstand a test exposure of 0.22 watts per square centimeter where a complete automatic sprinkler system is provided.

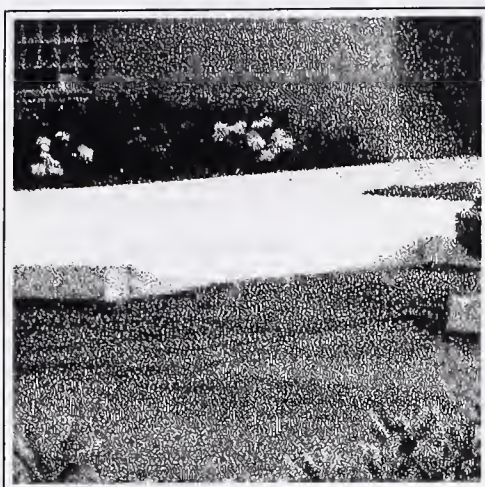
Structural Loads

- 1106 **Minimum uniformly distributed live loads:**
- | | | |
|----------------------|-----|------------------------|
| Corridors: | 100 | pounds per square foot |
| Flexible open areas: | 100 | " |
| Classrooms: | 50 | " |
| Stairs and exitways: | 100 | " |

Alteration of Existing Spaces

Article 32

- 3200 **Continuation of the same use group** or change to a use group of equal hazard index number shall comply with section 3203, described below.
- 3202 **The State Building Official shall determine** whether the existing building incorporating the proposed work complies with the provisions of this article.
- 3203.3 **New systems**—for example; mechanical, structural, electrical, plumbing, fire protection, egress, and construction systems, or portions thereof — in renovated construction shall conform to the code for new construction to the fullest extent possible.



Curb Access

Regulations Regarding Access for the Physically Disabled

The information which follows has been extracted from the Rules and Regulations of the Massachusetts Architectural Access Board, 521 CMR. Because child care facilities are public spaces, these regulations are binding. The accessibility requirements outlined in the OFC regulations are similar to those specified in 521 CMR, with the exception of some requirements as described in the beginning of this chapter. In addition, the Americans with Disabilities Act (ADA) became effective on January 26, 1992.

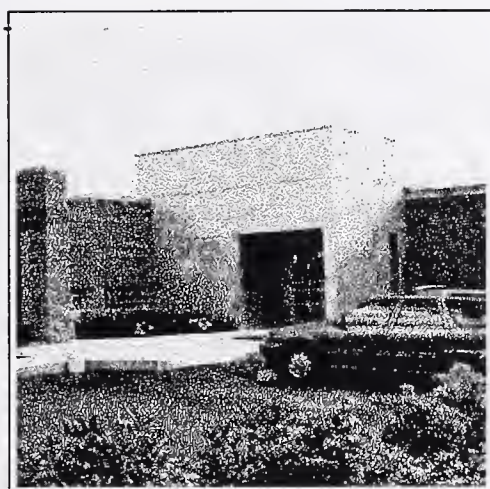
Public and private child care centers must also comply with these provisions. In the case of conflicting regulations the most stringent requirement shall be adhered to. Accessibility items which are most pertinent to the design of these facilities, whether new construction or renovation, are summarized below. Again, as in the Building Code sections, each section listed is followed by its relevant requirements. For further information, refer to the most recent version of these codes.

General

3.3 Compliance requirements: The proposed work being done amounts to more than 25% of the equalized assessed value of the building and the cost of the work is greater than \$50,000. The portion of the new work shall comply with the Architectural Access Board Regulations; wheelchair accessible entrance and toilets shall also be provided.

Division 5 Definitions of the terms are listed in the sections below:

Alterations	(section 5.4)
Cash Value of the building:	(section 5.10)
Means of Egress	(section 5.12)
Handicapped Persons	(section 5.14)
Public Building	(section 5.15.1)



Building Drop-Off

Site and Parking

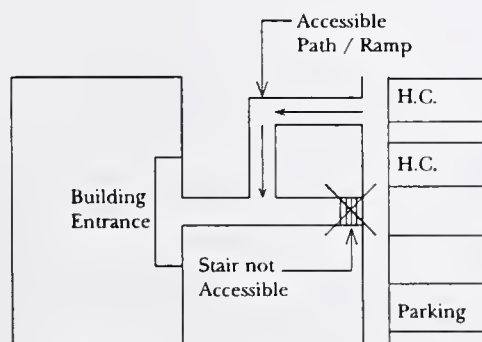
20.1 An accessible path of travel from the parking area to an accessible entrance is required. (see Figure #7)

20.2 Drop-off areas for vehicles shall be provided at an accessible entrance.

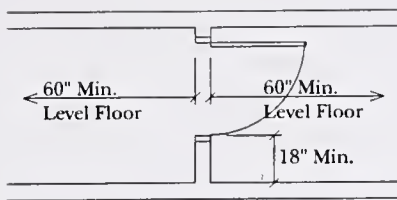
22.1 Walkway width shall be not less than 48" and if slope exceeds 5% it shall be regarded as a ramp.

23.2 Parking spaces designated for physically handicapped persons shall be located in the lot closest to the accessible entrance.

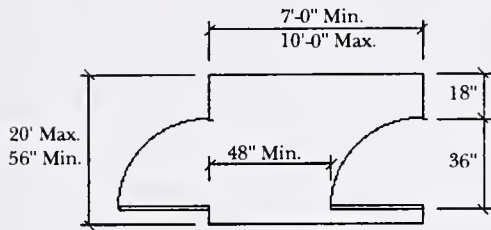
23.4 Attention is directed to the quantity of required handicapped accessible parking spaces, which shall be computed according to the table in this section.



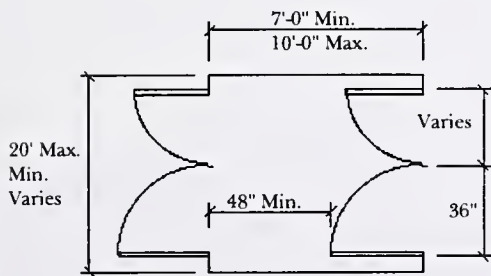
**Site Accessibility
Figure #7**



Door Egress
Figure #8

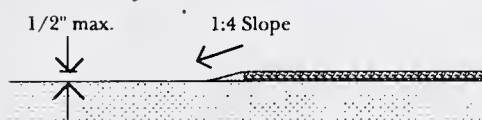


Option 1



Option 2

Vestibule Requirements
Figure #9

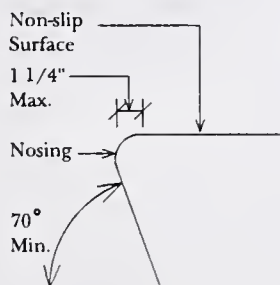


Option 1



Option 2

Interior Threshold
Figure #10



Stair Treads
Figure #11

25.2

Ramp slope shall not exceed a ratio of one-in-twelve. (1:12)

25.3

Ramp width shall be such to allow for a minimum clearance of 48" measured face to face of the railings.

Entrance and Doors

26.1

The primary public entrance shall have a non-slip surface, uninterrupted by steps.

27.4

Doors providing a means of egress shall have a 60 inch level space on either side of the entrance door (*see Figure #8*).

27.8

A clear floor area a minimum of 18 inches in width shall be provided on the latch, pull side of the doors (*see Figure #8 & #9*).

26.3

Vestibule spaces shall be at least 48 inches deep, in addition to the dimension of any door swinging in to the space (*see Figure #9*).

26.5

Door mats less than 1/2 inch thick shall be secured to the floor at all edges. Door mats thicker than 1/2 inch shall be recessed. Floor grates shall have openings less than 1/2 inch wide, measured in the path of travel.

27.2

Means of egress doors in public areas shall be a minimum of 36 inches wide.

27.3

Where there are pairs of doors, at least one door must be 36 inches wide (*see Figure #9*).

27.5

Closing speed of the door closer shall be no less than six seconds.

217.7

Exterior thresholds shall not exceed 1/2 inch in height.

Interior thresholds shall be flush with the floor.

Edge strips or thresholds at a change in floor finish may be beveled at a ratio of one-in-four (1:4) (*see Figure #10*).

27.9

Door opening hardware shall be mounted at 36 inches to 42 inches above the floor and be operable with a closed fist.

27.11

Doors in means of egress areas are to be operable with a single effort by one hand. Those in entry ways are to be unlocked and operable with one hand.

27.12

Doors to hazardous areas shall have door handles with tactile warning surfaces.

Stairs and Railings

28.2

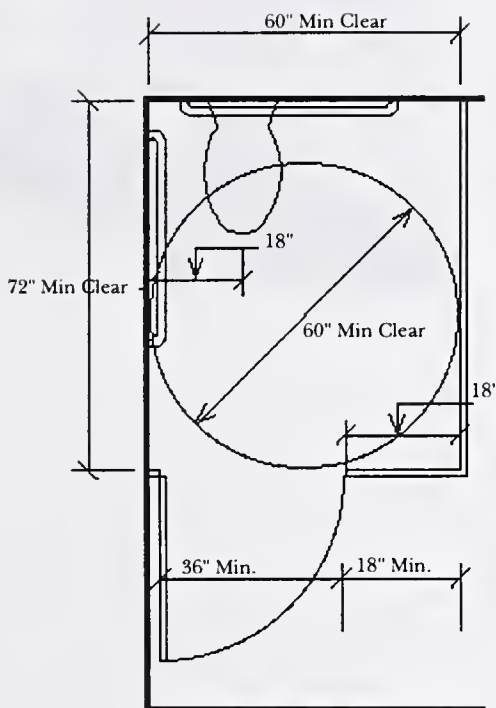
Stair treads may not have abrupt stair nosings. Instead, the riser shall slope at a rate limited to 1-1/4 inches from the horizontal. The angle between riser and tread shall be not less than seventy degrees. (*OFC requirements call for stair risers and treads without abrupt projections as shown in Figure #11.*)

- 28.4 **Handrail grip** shall be not less than 1-1/4 inches, or greater than 2 inches in diameter. The shape shall be round or oval with smooth surfaces free of sharp corners.
- 28.5 **Handrail clearance** from the wall shall be 1-1/2".
- 28.6 **Stair treads** shall have non-slip surfaces.

Restrooms

- 30.1 **In each public toilet room** at least one water closet and one lavatory shall be accessible to persons in a wheelchair.
- 30.3 **A minimum clear space** of 5 feet in diameter, measured 1 foot above the floor, shall be provided in toilet rooms.
- 30.4 **Accessible sinks** shall be provided which are mounted at a height of 32 inches above the floor as measured to the top of the rim of the sink. The sink shall extend 22 inches from the wall. Clear knee space, a minimum of 30 inches wide and 27 inches high shall be provided measured from the floor to the bottom of the sink counter.

Plumbing pipes shall be recessed, insulated or otherwise protected. Faucets shall be operable with a closed fist. Lever handle faucets are preferred.



Handicapped Toilet Stall
Figure #12

- 30.5 **Toilet stalls** are to be accessible to persons in a wheelchair and shall be a minimum of 5 feet wide and 6 feet deep with a 3 foot out swinging, self closing door. The toilet shall be 17 to 19 inches high, located 18 inches from the centerline of the fixture to the wall. Grab bars shall be provided (*see Figure #12*).
- 30.6 **Where urinals are provided**, one urinal shall be mounted with a rim height 15 inches above the floor. They may alternatively be floor mounted.
- 30.7/30.9 **Mounting height for toilet accessories, sinks and stalls** in public toilets shall be adhered to as described in these sections. A technical variance for heights in children's restrooms may be required.

Drinking Fountains and Telephones

If new drinking fountains or public telephones are provided they must be installed to comply with division 36 and 37 of the Regulations of the Architectural Access Board.

Prototypical Analysis of OFC Regulations

Staffing and Occupancy

7.06: (16) **One additional full time lead teacher** is required in a center when the number of children exceeds 39.

A second full time lead teacher is needed when the number of children exceeds 79.

7.06 (17) **Infant to staff ratios** are one teacher for the first three children and an additional teacher or teaching assistant for the next four children in a maximum group size of seven.

7.06: (18) **Toddler to staff ratios** are one teacher for the first four children, and an additional teacher or teaching assistant for the next five children in a maximum group size of nine.

7.06: (21) **Preschool children to staff ratios** are one teacher for the first 10 children and an additional teacher or teaching assistant for the next 10 children up to a maximum group size of 20.



7.06: (25) **Special needs children to staff ratios** see code if applicable. They are not applicable to the prototype center.

7.06: (29) **Children shall not be left unsupervised** at any time.

Program and Procedures

7.07: (7) **Children with disabilities** may require specific physical and educational accommodations. In addition to compliance with prescribed accessibility regulations, the licensee evaluates each child with special needs. A judgement is then made to determine if the required accommodations would cause an undue burden to the center. Final determination regarding each program for a disabled child should be resolved between the licensee, the parents of the child, and the OFC.

7.07: (12) **The curriculum** is to provide variety in programming, including but not limited to opportunities: to be indoors and outdoors; for small and large muscle activities; for creative activities; for privacy; for cultural diversity; for space for infants and toddlers to crawl; and for self-help skills.

7.07: (17) **Emergency and health care information** shall be posted in a place that can be easily viewed by staff and visitors.

One non-coin operated telephone shall be provided.

7.07: (18) **First aid supplies** shall be provided.

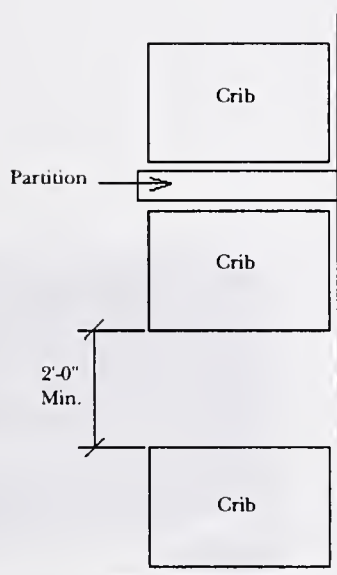
First aid supplies and toxic substances shall be kept in a secure place, out of the reach of children.



- 7.07: (20) **Individual towels or disposable towels** shall be provided for child and staff use.
- 7.07: (21) A **quiet area for mildly ill children** shall be provided. Licensee shall be able to adequately store medications in a secured and safe place.
- 7.07: (26) **Non-disposable washcloths** (if used) shall be stored open to the air, without touching each other.
- Provisions shall be made for storing soiled diapers and clothing.** Space for extra clean clothing shall be available for each child.
- Individual children's toothbrushes** shall be stored separately, open to the air.
- 7.07: (26) (a) **Toileting and diapering information** shall be posted in both toilet and diapering areas.
- 7.07: (26) (d) A **separate area for diapering** and storing a supply of diapers shall be provided.
- 7.07: (26) (f) **Running water** shall be adjacent to the diapering area for washing of hands.
- 7.07: (26) (g) **Diapering areas and hand washing facilities** shall be separate from the food preparation and service area.

Food Preparation

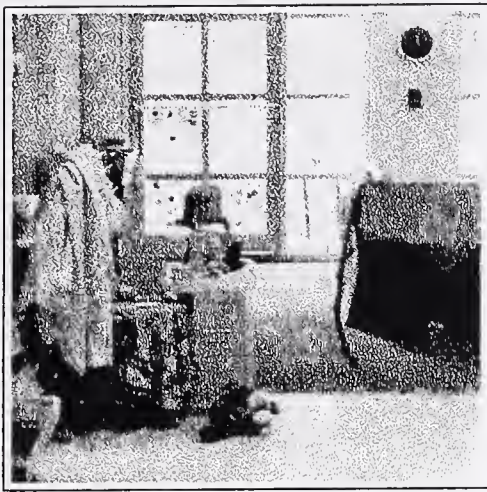
- 7.08: (8) **Refrigeration and storage** for food shall be provided.
- 7.08: (10) A **barrier** must be provided to prevent children's access to the kitchen unless they are supervised.
- 7.08: (12) **Dining areas** shall be uncrowded, clean, well lighted and ventilated.
- 7.08: (13) **Tables and seats** must be provided for children to use while dining. These should be designed appropriately to the size and needs of the children.



**Crib Layout
Figure #13**

Sleep and Napping Functions

- 7.09: (3) **Rest and sleep periods** must be included in the daily schedule in an area designed to minimize noise and disturbance. A separate mat, cot, or bed and blanket shall be provided for each child.
- 7.09: (4) A **minimum of two feet must separate each crib**, cot or mat on all sides except where in contact with a wall or partition. Sleeping areas must be arranged so that children can be easily accessed during an emergency (*see Figure #13*).



Physical Facility and Equipment

7.11: (3)

Lead paint laws shall be strictly adhered to.

7.11: (4)

A minimum of 35 square feet of child activity space per child shall be provided, exclusive of halls, bathrooms, kitchens, storage rooms, offices, and areas used for other purposes. This area includes, but is not limited to, activity rooms and areas, indoor gross motor room, quiet activity areas, and interior water play areas.

- a) floors are to be non slip, free of cracks, splinters, sharp or protruding objects or other hazards.
- b) ceilings and walls are to be in good repair and free of sharp or protruding objects and other hazards
- c) steam and hot water pipes or radiators should be protected from contact with children
- d) electrical outlets shall be protected with safety devices
- e) room temperature shall be not less than 65 degrees Fahrenheit when the outside air is zero degrees Fahrenheit, and not more that the outside temperature when the outside air exceeds 80 degrees Fahrenheit .
- f) separate spaces shall be provided for administrative duties and staff or parent conferences.
- g) sufficient space shall exist to store children's clothing and personal items
- h) guards must be in place across the inside of windows above the first floor if windows are accessible to children and on the outside of windows abutting outdoor play areas; guards must be provided at the top and bottom of stair wells opening into areas used by children.

7.11: (5)

A minimum of 75 square feet of outdoor space shall be provided for each child using it at any one time. The average width of the space shall not be less than 8 feet.

- a) Some portions of the space shall have direct sunlight.
- b) The space shall be free from hazards, poisonous plants and dangerous machinery or tools.
- c) A non-climbable, four-foot-high fence shall be provided as a barrier between the outdoor area and an adjacent highway or similar dangerous area. If play areas are on the roof, a similar four-foot-high fence should surround the play area.



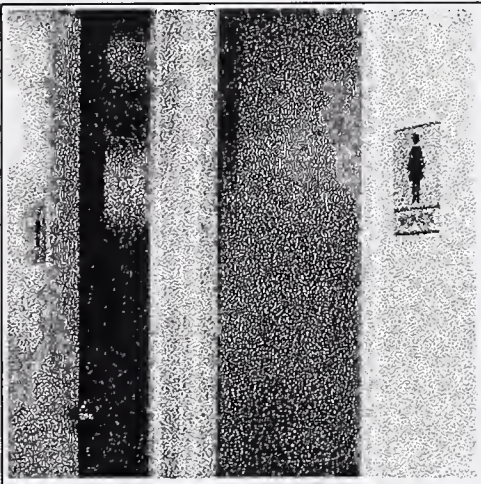
- d) Ground covering shall not be harsh or abrasive. The area below play equipment shall either remain unpaved, or if paved, be covered with cushioning mats

7.11: (6) **One toilet and one washbasin** must be provided for every twenty children in well ventilated bathrooms.

7.11: (7) **Both hot and cold running water** must flow in basins used by children; temperature controls must be provided to prevent water temperature from exceeding 120 degrees Fahrenheit.

7.11: (12) **A variety of play materials, equipment and furnishings** shall be provided, representative of the following: art supplies, blocks and accessories, books and posters, dramatic play area, large muscle equipment, manipulative toys, musical equipment, science materials, and age appropriate materials.

7.11: (13) **Safe, flame retardant, hazard free and sturdy equipment, furnishings, materials, toys and games** appropriate to the needs and development level of each age group are to be incorporated into the center.



Separate accessible Restrooms for Men and Women are required by code without a variance.

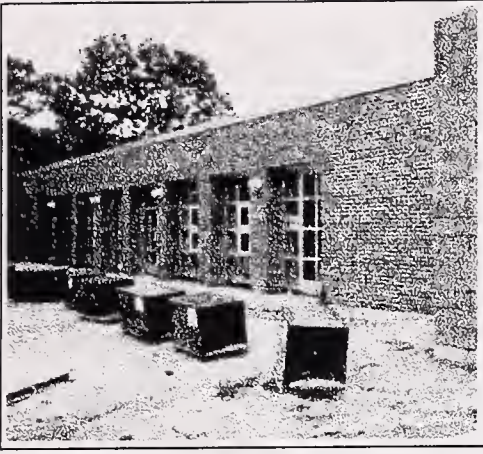
7.11: (14-25) **Physical access by persons with disabilities** must be provided. *(The requirements of this section are similar to those summarized from the Regulations of the Architectural Access Board. However, inconsistencies exist between these two regulations. Before completing the design for physical accessibility, one must compare the requirements of the codes and seek variances for items which are required but are not in compliance. The following are some of items which must be dealt with as discussed above.)*

7.11: (20)C **Minimum allowed width** of an elevator door opening.

7.11: (21)C **Wheel chair lifts** *(not always approved as a means of access. Generally, a variance is required from the Architectural Access Board to use a lift)*

7.11: (22) **Maximum height of** and extension of stair rails.

7.11: (23) **Unisex restrooms** *(generally not permitted by the Massachusetts Fuel, Gas, and Plumbing Code)*



LICENSING OF CHILD CARE CENTERS BY THE MASSACHUSETTS OFFICE FOR CHILDREN

Scope

All child care centers must be licensed by OFC, and must comply with the agency's regulations. Prior to licensing, the licenser inspects the child care center for compliance with OFC regulations. To obtain an OFC license, the following step by step process is recommended.

Steps in the Process

Obtain a copy of "102 CMR 7.00: Standards for the Licensure or Approval of Group Day Care Centers" published by the Office for Children. The Standards are available from the State House Book Store, State House, Room 116, Boston, MA 02133 (phone 617-727-2834).

Review the standards and ask how the OFC regulations would apply to the particular day care center you want to start. Group day care center standards cover day care centers for infants (1 month-15 months), toddlers (15 months to 2 years, 9 months), preschool age children (2 years, 9 months and up), private kindergarten programs, both full day and part day, and children with special needs. There are a separate set of regulations, 102 CMR 11.00, for school age child care.

Contact the Office for Children and make an appointment to attend the next scheduled meeting for new day care providers. These meetings are held regularly for people who are considering starting a new center. At these meetings, OFC licensers discuss the licensing process, provide copies of application materials and helpful forms and answer questions you might have. For more information concerning these meetings contact OFC at (617) 727-8898.

To determine the regional OFC office for your location, call the Office for Children at 617-727-8900.

File a complete application packet and licensing fee with the Office for Children.

OFC will conduct on site inspections to assess compliance with licensing regulations.

A six-month provisional license will be issued for new day care center programs if they are found to be in compliance with the regulations.

SELECTING OR PLANNING AN APPROPRIATE SITE

Space Selection
Building Survey Checklist

SELECTING OR PLANNING AN APPROPRIATE SITE

The first chapters of the Handbook focused on determining the need, age group composition, and general area requirements of a prospective child care center. This chapter addresses identifying a suitable location for the facility.

Space Selection

A location for the prospective child care center may be a vacant space in an existing building, or space which was originally built for another purpose and can be readily adapted for use. Alternatively, a new building can be erected.

Selecting a location for a child care center involves two related considerations: the general relationship of the child care center within a physical context, e.g. the campus, neighborhood or community, and its ability to meet the individual needs of the children and staff.

The considerations for space selection include both outdoor program space (see Chapter 5, *Designing the Outdoor Play Area*) and interior program space.

Site Selection

Hazardous Conditions

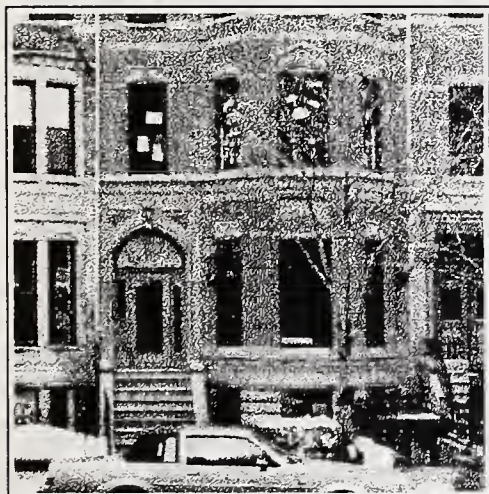
A center cannot occupy the same building or be located within 200 feet of a high hazard occupancy. (See Section 306 State Building Code for detailed listings of high hazard occupancies.) Generators of noxious chemicals, manufacturing and other hazardous conditions are to be avoided.

Roads

Arterial streets, busy intersections and railroads should be avoided if possible when identifying site locations. Quieter side streets typical of residential neighborhoods are preferable.

Access

Convenience of the vehicular drop-off and day time visitation access should be considered. A lane separate from the roadway should be provided for cars to pull up to the front entrance area. An area 10 foot wide by 60 feet long provides a drop off space for three cars. A wheelchair curb cut shall be provided. Locating the child care center within walking distance of the workplace may be desirable, but is not necessary.



Fire Access

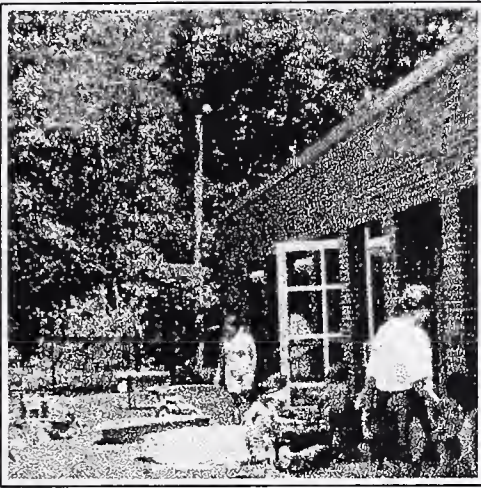
Driveways should be designed with a turning radius accessible to fire vehicles. The fire department servicing the area in which the center is to be constructed should be contacted to determine specific details.

Parking

Adequate area to accommodate parking for staff and parents should be provided. A ratio of one space per staff is adequate for estimating the number of needed parking spaces. The spaces may be provided as part of a centralized parking facility at, for example, a state college. Local zoning requirements should also be taken into consideration.

Utilities

Water, electricity, and preferably gas and sewer, should be available. Although close access to utilities is important, that factor must be balanced with the overall quality of the site.

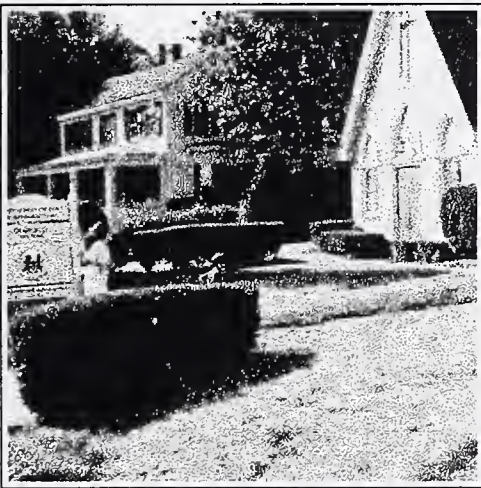


Setting

Access to open space, public parks or quality outdoor activity space is an important determinant with any site. In urban or institutional settings a center could be located to take advantage of cultural amenities, gyms, libraries, etc.

Identity

The center should have its own identity. If possible, children arriving at the child care center should perceive the building as a friendly and child-oriented setting. The facility should be sited so that it is visible to motorists, pedestrians, visitors and is clearly recognizable as a child care facility.



Image

Locate the center to enhance its image by borrowing from other positive aspects of the neighborhood, e.g. community facilities, parks, and housing.

Security

Clearly define the area within the center's jurisdiction as separate from adjacent programs or functions. The center is best located among other safe activities, where easy surveillance can take place.

Topography

A flat site is preferable but not essential. Children's play areas are best designed on level terrain.

Wetlands

A survey is necessary to determine if wetlands exist, and if so, the boundaries of the wetlands which establish buildable area. In most cases it is recommended for buildings to be sited outside the 100 foot wetland buffer zone.

Outdoor Play Area Selection

Size

OFC Regulations require a minimum of 75 square feet of usable outdoor space per child using the play area at one time. A higher ratio of 100 square feet per child is better, with an ideal situation being 200 square feet per child.

If space is limited, administrative scheduling can control play time such that different age groups do not play outdoors simultaneously.

Separation

For safety reasons, separate space for each age group shall be provided if the different age groups are playing outdoors at the same time. Functionally, this arrangement may be preferred in that the play support needs of the different age groups vary. If size limitations do not allow for separate age group play areas, the design, and chosen equipment, must provide for the needs of all ages.

Elements

Direct sunlight, shading, drainage and protection from wind and snow shall be provided in the outdoor play space. The area shall be free from hazards.

Features

Provide opportunities in the outdoor play space for gross motor, passive, active, quiet, creative, and group activities. Features which enhance developmental play include water play areas, sand, dirt, construction features, gardening, dramatic play areas, and hard or resilient surface areas for riding wheeled toys. Additional resilient surfaces for climbing, swinging and sliding play equipment are required.

Terrain

Variety of and access to natural features enhances the children's direct experiences with nature. Features such as trees, hills, ponds, streams, plantings, open space views and rocks can be preserved on site and utilized in association with the outdoor play area.



Interior Space Selection

Area

Provide 95 square feet per child of gross area.

Location

Infants and toddlers from basement (but not more than 4 feet below grade) up to the 3rd story.

Preschool or older children up to the 7th story.

Location limitations of the child care center vary for different building construction types and sprinklers conditions.

Location of each child care center within the building shall be checked in accordance with the building construction type limitations.

Access

Unimpeded access and use of the facility by the physically disabled is required (see also toilets).

Egress

Two separate and independent means of egress shall be provided which are remote from one another and lead directly to grade.

The two means of egress shall not lead to the same corridor for egress.

Security

The space must be secure or made so through renovation. Consideration must be given for inside/outside surveillance of the children, and the surrounding site.

Fire Separation

Separation from adjacent spaces is required for child care centers by fire rated partitions, floors and ceilings.

Rating of floors and ceilings is costly. If the choice is to renovate existing space, consideration should be given to locating the center within a building which already has fire rated construction .

Alarms

A manual alarm system must be provided for centers with a capacity *up to 24 children*.

An automatic fire alarm system is required for centers able to care for *25 or more children*.

Smoke detectors shall be provided in all centers.



Sprinklers

Sprinklers are preferable even when not required by code.

They are not required for centers including infants and toddlers located *on the first floor* or a partial basement (i.e. less than 4' below grade).

Preschool and older children can be located *up to* the second floor without sprinklers.

All other centers, located in spaces other than those described above, need to be sprinkled.

Asbestos

A site with no asbestos present is preferred. Removal of all materials containing asbestos may not be necessary, or practical. On the other hand, renovations to a building may leave no alternative other than having an asbestos abatement contractor remove material. Each situation should be viewed in terms of the extent of asbestos and whether options other than removal may be considered, such as repair and patching damaged asbestos, initiating an Operations and Maintenance program, etc.

Flaking asbestos exposed to habitable space must be removed or encapsulated.

Asbestos that would be penetrated in order to perform other work necessary to complete the construction of a center must be removed.

In an uninhabitable space asbestos needs to be removed if it can become airborne, e.g. an air plenum.

Airborne particles of asbestos pose a health threat.

Lead Paint

A site with no lead paint present is preferred. Buildings constructed before 1975 are most likely to have lead paint. The licensee must assure that the center and the grounds comply with the regulations by obtaining an inspection certificate from the local board of health or the State Department of Health.

Windows less than 5' above the inside floor or outside grade must have all lead-based paint and putty abated or removed from all moveable surfaces or surfaces which come in contact with movable parts.

Window sills below the height limits need to have lead-based paint removed or the sills encapsulated.

On metal windows, the paint need only be removed if it is flaking.

Flaking lead-based paint on walls or windows (regardless of height) must also be removed.

Light

The building must have windows for a good source of natural light. Rooms or space intended for human occupancy must have minimum glazed areas of not less than 8% of the room's floor area.



Ventilation

10 cubic feet per minute per person fresh air shall be provided in activity/class rooms and administrative areas through the mechanical system.

Separate ventilation shall be provided for toilet areas and kitchens.

Natural ventilation through operable windows, doors and louvers shall be at least 4% of the floor area being ventilated. Natural ventilation may be substituted by mechanical ventilation.

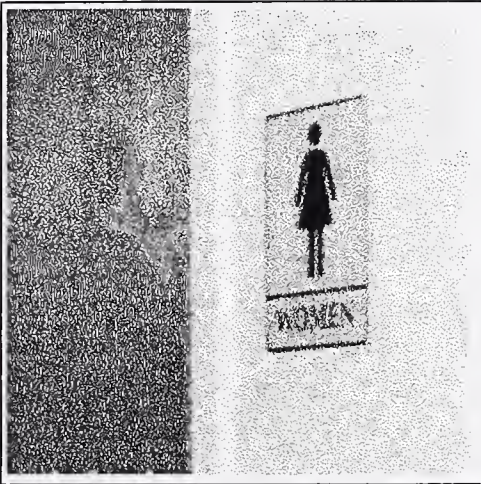
Air Conditioning

Although not specifically required by code, **air conditioning** is practically essential, in at least the primary activity areas.

Toilets

One toilet and wash basin for every twenty children in one or more well-ventilated bathrooms must be provided.

One preschool training toilet at a minimum must be handicapped accessible. Due to a conflict between the state's children's regulations and its handicapped regulations a variance is required from the Architectural Access Board in order for the toilets sinks and accessories to be mounted at a height enabling use by children.



Hot water temperature at the sinks cannot exceed 120° Fahrenheit.

Provide two adult toilets, one for each sex. These can be located in adjacent program space if necessary.

Unisex toilets are prohibited unless the adult toilets cannot be made handicapped accessible. Upon variance from the state plumbing board, one additional unisex handicapped toilet shall be provided.

Half-height partitions for training toilets are recommended by the Office for Children to allow for constant visual contact with the children.

Acoustics

Child care facilities should be acoustically isolated from adjacent functions so the center can function without disturbing or being disturbed by neighboring facilities.

BUILDING SURVEY CHECKLIST

Page 1 of 5

This checklist of available documents and existing conditions can be utilized to describe the building or property your facility proposes for the construction of a child care center. The information is beneficial in the initial planning stages and may be used in the development of construction documents. It is particularly useful to include any and all existing conditions drawings and explanatory photographs. Include any additional information you feel will be helpful.

Name of Facility _____

Address _____

Function of Facility _____

Contact person _____

Preparer's name _____

Available Documents

YES NO

Site survey / Legal description .

Architectural drawings .

Structural drawings .

Mechanical drawings .

Landscape drawings .

Site utility drawings .

Zoning ordinance .

Zoning map .

Wetlands map, if applicable .

Technical specifications .

Geotechnical report, if applicable .

Recent energy management survey/Audit .

Other

BUILDING SURVEY CHECKLIST

Page 2 of 5

Site: Campus or suburban location

_____ is sited on a property of _____ acres in _____, MA. The site is _____ miles from major thoroughfares _____ and _____. The general character of the land is _____ (Examples: *flat, gently rolling hills, steep hills*). Outstanding physical features of the land include: _____ (Example: *Body of water, wetland, flora features, access, roads, noise.*)

Site: All locations

Approximately _____ square feet of land are available directly contiguous to the proposed facility, for outdoor play areas.

Approximately _____ parking spaces can be accommodated.

Architecture

The building proposed for the facility was originally designed by _____ in _____ and completed in _____. Alterations were done in _____ by _____. *Provide Mass. Project #'s if available.*

The primary exterior building materials are _____

The style of architecture is best described as _____ with a _____ roof.

The structural system is _____ columns, _____ beams, _____ walls.

The building height is _____ feet. The building has _____ stories above grade.

The foot print of the building is approximately _____ gross square feet.

The usable interior space is approximately _____ net square feet.

The ceiling height of the main spaces is approximately _____ feet.

The area proposed for the facility is on the _____ floor with _____ access to grade.

Attach explanatory sketch plans, drawings, and or photographs.

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BUILDING SURVEY CHECKLIST

Page 3 of 5

Utilities

The following utilities enter and serve the building campus as noted:
Please describe size of pipes, capacity, pressures, and condition of services.

Water

Sanitary sewer

Gas

Steam

Primary Electric

Oil

Telephone

Building system

Please describe the capacity, type and method of distribution of the following systems:

Mechanical

Electrical

Fire Detection/Alarm

Plumbing

Fire Protection/Suppression

BUILDING SURVEY CHECKLIST

Page 4 of 5

Code issues

Present zoned use

Live load (weight of occupants and interior furnishings)

Egress

Handicap access

Asbestos

Lead paint

Insulation

Underground oil tanks

BUILDING SURVEY CHECKLIST

Page 5 of 5

Projecting the timeframe involved in the planning and construction of a childcare center is a valuable exercise. This form is useful in projecting the sequence of events required in this process.

Schedule

Fill in date and duration of time estimated and / or preferred for the proposed project.

Purchase/Sale date _____

Lease commencement _____

Move-in objective _____

Relocation of existing tenants/users _____

Program/space plan _____

Preliminary design _____

Final design _____

Start construction _____

Complete construction _____

Prepare furnishings and equipment inventory _____

Select new furniture _____

Furnishings and equipment delivery _____

Critical long-lead items
(equipment, furniture, etc...) _____

Other

DESIGN OF THE OUTDOOR PLAY AREA

Guidelines for Play Area Design

DESIGN OF THE OUTDOOR PLAY AREA

The outdoor play area at a child care center is as important as the inside activity space in supporting and encouraging the children's development. While it is a relatively straightforward task to merely accommodate the outdoor activity space requirement of 75 square feet per child, it is necessary and very rewarding to create a thoughtfully designed outdoor play area which can provide a challenging and stimulating setting for creative and cognitive development.

Every site is unique in terms of its existing natural features and orientation. Topography, trees and other vegetation, soil conditions, water features, sun and shade, and exposure to wind are all factors that will affect the outdoor play area design. The proximity to parks, playgrounds and other outdoor places of interest should be considered in identifying the needs of the center's outdoor play area. Potentially hazardous conditions adjacent to the site, such as roads and unsafe neighborhoods, must be recognized. If there is potential for expansion of the outdoor play area in the future, this will impact the site selection and design.



Guidelines For Play Area Design

Topography and Accessibility

Although a flat site may be the easiest to develop, varying topography, whether existing or created, is an asset that can be incorporated into play area design with slides set into slopes, hillsides for rolling and climbing, and earth berms to separate different types of activity. Topographic features can also effectively delineate different activity areas as well as simply offer interesting high and low spaces for children to explore. Regardless of the overall topography of a site, certain components such as play equipment, sand boxes and outdoor furniture will require flat areas in order to be installed and used safely.

If the topography slopes constantly across the site it will be necessary to create level areas by regrading and possibly retaining the ground with walls, stones, or plantings. This can affect costs and must be considered when evaluating construction budgets. Play areas must be accessible by the physically disabled and meet the criteria established by the State Architectural Access Board Regulations, and the Americans with Disabilities Act (ADA). Access to the outdoor area should not require the use of stairs (not even one step) nor should the slope of a walkway exceed 5%. If steep slope conditions are present, ramps must be constructed which meet all applicable codes and standards. Play equipment, sandboxes, water fountains, site furnishings and other playground components must be accessible and usable by the disabled.

Direct access from the child care center to the outdoor play area is preferable for ease of supervision and maximum safety. If this situation is not possible, as is sometimes the case in an urban child care center, the route must be carefully considered. Crossing a street to reach the play area is undesirable. If a direct physical relationship between the center and the play area is not feasible, there should be, if at all possible, an unobstructed view from the inside of the center to the play area.

Environmental Issues

Sun, shade and wind are primary factors in selecting the site for a play area. A sunny location is important for quiet activities as well as for infant play. It will also dry faster after periods of rain and snow. It is equally important to provide some shaded areas. If trees are not already existing on the site, they can be planted. Shade structures such as arbors and trellises or high fences will effectively provide shade. It is also desirable to provide a certain degree of wind screening, particularly in the winter. Winds can be buffered with dense evergreen plantings or blocked by fencing. Probably the best alternative is to locate the play area in a way that makes best use of the building which houses the child care center. It may be possible to site the play area so that the building will cast some shade but not block all sun, and will effectively block winter winds.



Safety Factors

Enclosure

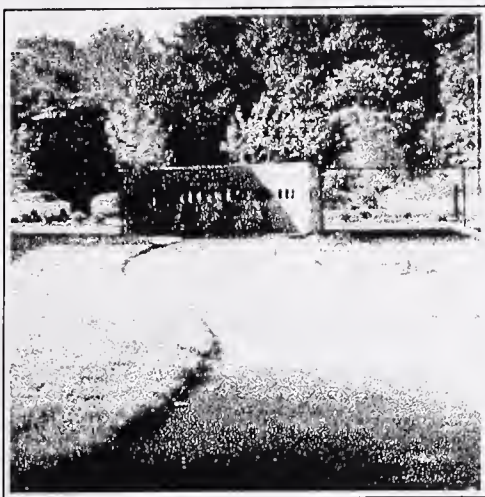
For both the protection of children and ease of supervision, a play area should be enclosed with fencing at least 4'-0" high. If the play area is near a road, this fencing is required. The enclosure must have at least one gate which can be locked. Fencing need not be opaque, although sections of it may be for purposes of screening from sun, wind, or objectionable views. Transparent fencing allows children to see beyond their area which can add to their experience and help to integrate the child care center into the neighborhood. It is best to select a fence type that requires minimal maintenance, such as vinyl-coated chain link. (To prevent injury with this choice, install the chainlink with the fabric facing the interior of the play area so the children will be protected from any protruding bolts.) If a picket-type fence is desired, no pickets should extend above the top rail for safety reasons. If wood is the chosen material, it must be free of splits, cracks, or sharp edges. If metal is preferred, keep it free of rust.



Sun, shade, and wind protection, which can be accommodated in a "playful" manner, and the enclosed area are desirable features for outdoor play areas.

Vegetation

The incorporation of trees, shrubs, and flowers into a play area is advantageous for several reasons. A display of vegetation which changes with each season is a beautifying element which is also of educational value as children begin to learn about growth cycles and respect the importance of plant life. Introducing plant materials into the play areas — which typically consist of play equipment, pavement and grass — can soften and add visual interest to the landscape. Trees provide shade; hedges screen unattractive views; flowers add color and scent; fruiting vegetation attracts birds. However, fruiting vegetation should be planted so the fruit is prevented from expanding into areas used by the children.



Varying surfaces, including asphalt, grass, concrete, sand, or textural surfaces, can be utilized to accommodate various types of play functions.

Avoid all thorny and poisonous plants. Most comprehensive books about plant identification offer lists of such materials. One particularly good reference is Donald Wyman's *Shrubs and Vines for American Gardens*, published by the MacMillan Publishing Company. Another source of information is *Poisonous Plants*, published by the Arnold Arboretum in Jamaica Plain, Massachusetts.

Materials

Surfacing

Paved areas which are intended for walking, riding wheeled vehicles, or for certain types of game playing can be constructed of impact absorbing rubber mats/tiles, cement concrete, or bituminous concrete (asphalt). Rubber surfaces are the safest and most attractive but also by far the most expensive. Concrete is the most durable, but also costly and difficult to repair. Bituminous concrete may be the optimal material because it is the least costly, easy to repair, and suitable for drawing on with chalk. It also lends itself well to placement on slopes and can be easily laid in curvilinear shapes. Brick and other similar unit pavers should be avoided because of costs and the higher maintenance required.

The choice of impact-absorbing surface material to be used under and around play equipment is one of the most important decisions to be made in the design of outdoor play areas. According to the 1991 Handbook for Public Playground Safety by the U.S. Consumer Product Safety Commission (CPSC), "...a fall onto a shock absorbing surface is less likely to cause a serious injury than a fall onto a hard surface. Because head impact injuries from a fall have the potential for being life threatening, the more shock absorbing a surface can be made, the more is the likelihood that the severity of the injury will be reduced. However, it should be recognized that all injuries due to falls can not be prevented no matter what playground surfacing material is used."

There are a variety of loose fill materials which can be installed to meet the criteria developed by the CPSC. These are wood mulch, double shredded bark mulch, wood chips, fine and coarse sands, and fine and medium gravel. (Note that this list does not include grass or dirt.) Certain wood mulch systems are particularly beneficial because they provide a wheelchair accessible surface. Also available are synthetic surfaces, either rubber mats or tiles, or a rubber material that is poured in place and then cured to become a continuous resilient surface. These are generally installed on a concrete or bituminous concrete base, while the loose materials are laid over a bed of gravel to aid drainage. Both loose materials and synthetic systems must be installed correctly to qualify as an acceptable impact-absorbing system. Loose materials in particular must be compacted to a sufficient depth.

Environmental conditions, too, will affect the choice of surface for each play area. The CPSC Handbook is a valuable reference which can aid in the process of selecting and correctly installing the most appropriate materials. If a play area includes an area of a loose-fill impact-absorbing surface, for example, it will be necessary to construct a curb or edge to contain the loose material. (The purpose of this edging is twofold. First, it is critical that the depth of the compacted material remain constant in order to maintain its resilient capacity. Second, it will significantly ease maintenance operations if loose material is not continually scattered out of the area due to vigorous activity.)

Curbing

The best curbing is constructed of wood which has been pressure-treated to help prevent rotting. It is advisable to create a minimum 6" difference between the top of the fill material and the top of the edging to avoid spreading of the fill material onto adjacent areas (a ramp must be provided, for access by the disabled down the 6" into the play area). The exposed edges of the curbing should be beveled and sanded to prevent splintering and to decrease the risk of injury.

Although cement concrete can be used to form a curb, this is not preferable because it is a very hard material and can pose a danger to children.

Play Opportunities

For a play area to be of maximum value in a child care setting it must provide appropriate play opportunities for all proposed age groups: infants, toddlers and preschoolers. The best situation provides separate areas for active and quiet play for each age group.

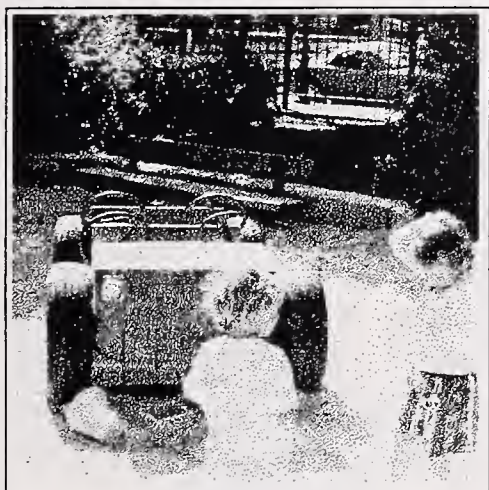
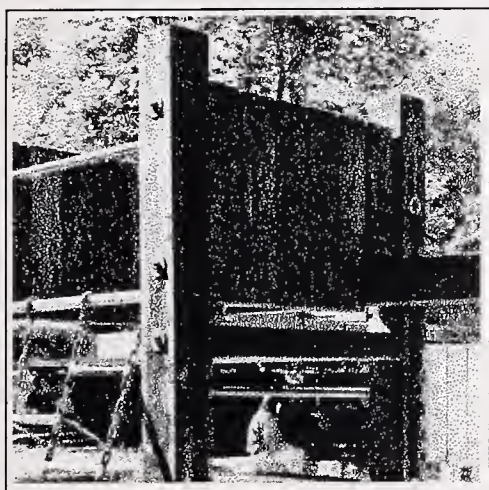
An extensive variety of play equipment is available, so it is quite a task to determine which is most appropriate for each child care center. In general, choose pieces which supply the users with opportunities for different kinds of play. Play equipment should encourage the development of gross motor skills (climbing, balancing, swinging, sliding, jumping, etc.) as well as cognitive skills (counting, communicating, prioritizing, assessing, etc.). If the child care center also plans to make use of a nearby playground, then the types of play supplied should complement that which is available off site.

Work with a consultant who specializes in play area design to aid in the selection and placement of play apparatus. Infants, toddlers, and preschoolers have differing abilities, both physically and intellectually. The equipment should be located within the play area in a way that will enable staff to keep younger children from using equipment intended for older children. Equipment for each age should be grouped together and if possible, distinct age activity zones should be developed. This can be difficult if space is limited. The goal of separation in some form should remain key in the design of the active play space.

Passive space is also important and can consist of a lawn area which includes both sun and shade if possible. It should be distinct from the active play areas to be conducive to quiet activities. It may include a picnic table or some other form of seating. Pursuits that can be enjoyed in this area may be storytelling, resting, eating, or less active game playing.

Additional items which may be considered for inclusion in the outdoor play area include anything else that will expand the opportunities for a child's active, intellectual, and sensory outdoor experience. These can include: a water fountain, sand box, water play feature, talk tubes, seating for both adults and children, gardening area, bird feeders and bird baths. The play area will inevitably change and evolve over time, so it is better if the entire area is not programmed from the start, but instead that some "leftover" space exists which can be developed in the future.

Outdoor Play Opportunities can be structured and built on site, purchased, or a combination of loose items useable indoors or outdoors.



THE PROTOTYPES

The Basic Prototype

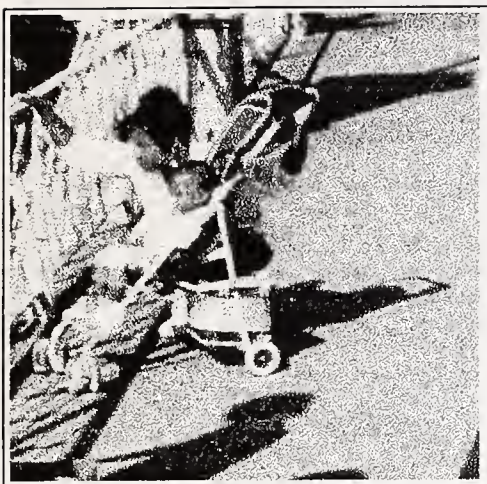
Examples of Prototypical Child Care Centers

Program Area Chart

Prototype variations

Prototypical Outdoor Play Area Plans

THE PROTOTYPES



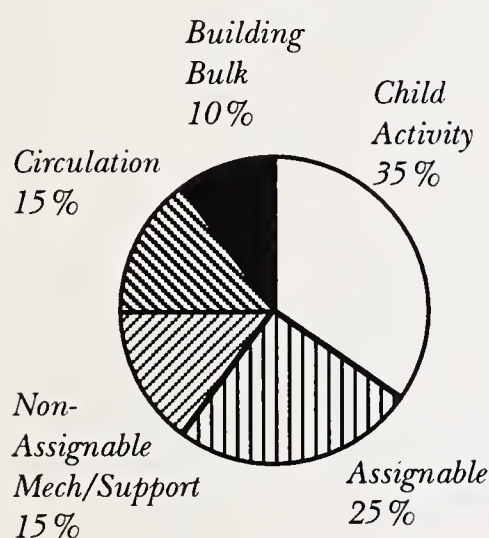
This chapter describes a basic prototype for a child care center serving 36 children; it has been the Massachusetts DCPO model for on-site facilities. The prototype is divided into individual groups of preschoolers, toddlers and infants as per the program requirements. As discussed in Chapter Two, "Planning A New Child Care Center," guidelines help to determine the total square footage needs for the building, including the activity areas where children spend most of their day, support space and circulation. In addition, there are two prototype options for outdoor play areas.

The prototype can be adapted to suit a variety of other operational needs. Spaces can be added or deleted depending upon particular requirements. Variations on the basic prototype may include a Double Basic Prototype, After School, Double Shift, Sick Care, Educational Training Facility and Drop-in Center.

The prototype and variations to it are discussed by exploring the relative areas, major spatial relationships and basic circulation within the child care center. Diagrams are used to highlight inherent relationships. These concepts are meant to be guides for designers to adapt to specific locations and programs. For detailed descriptions of each room or function area in the prototypical child care center, refer to the Room Data Sheets in Chapter 8.

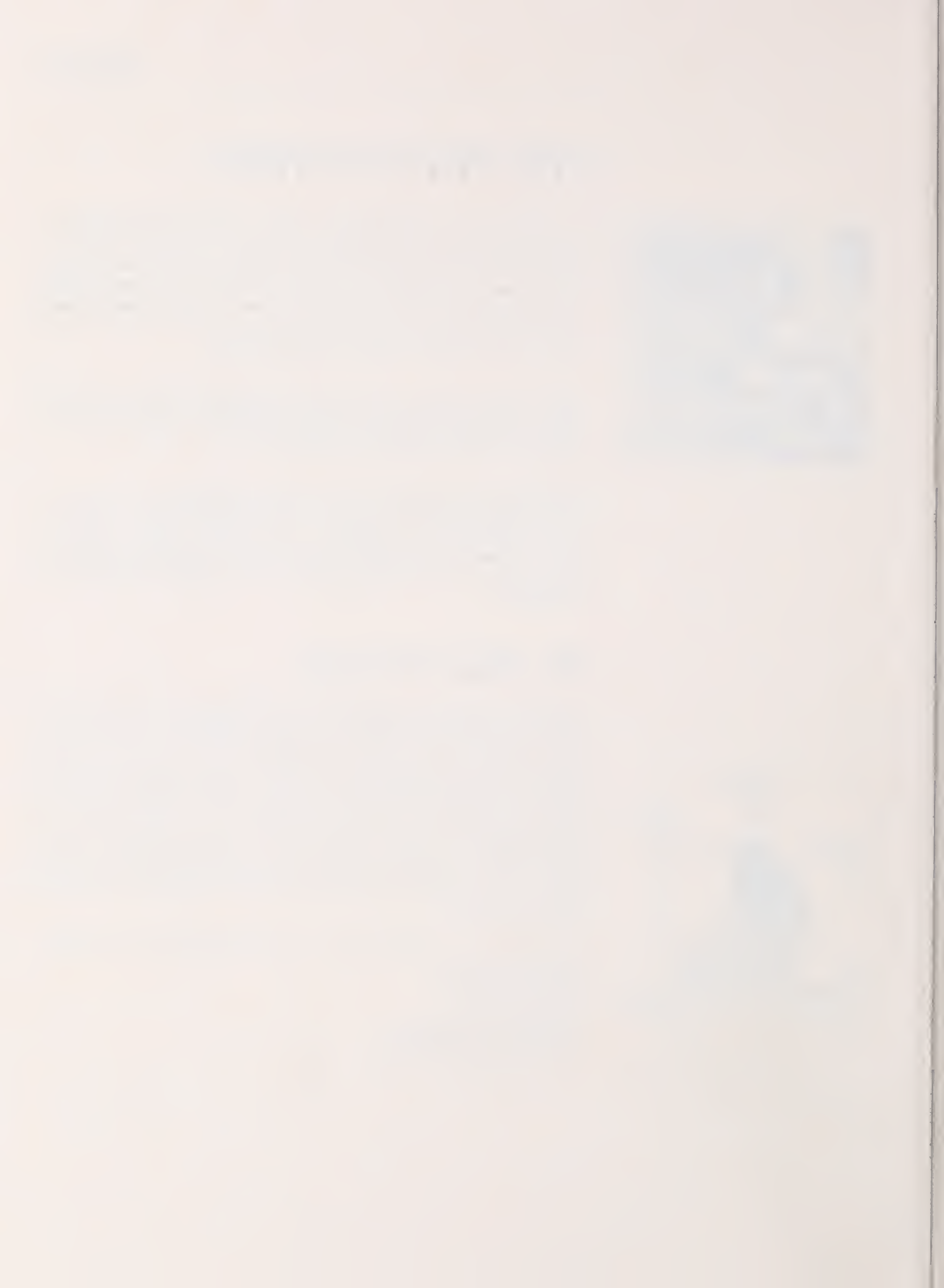
The "Basic Prototype"

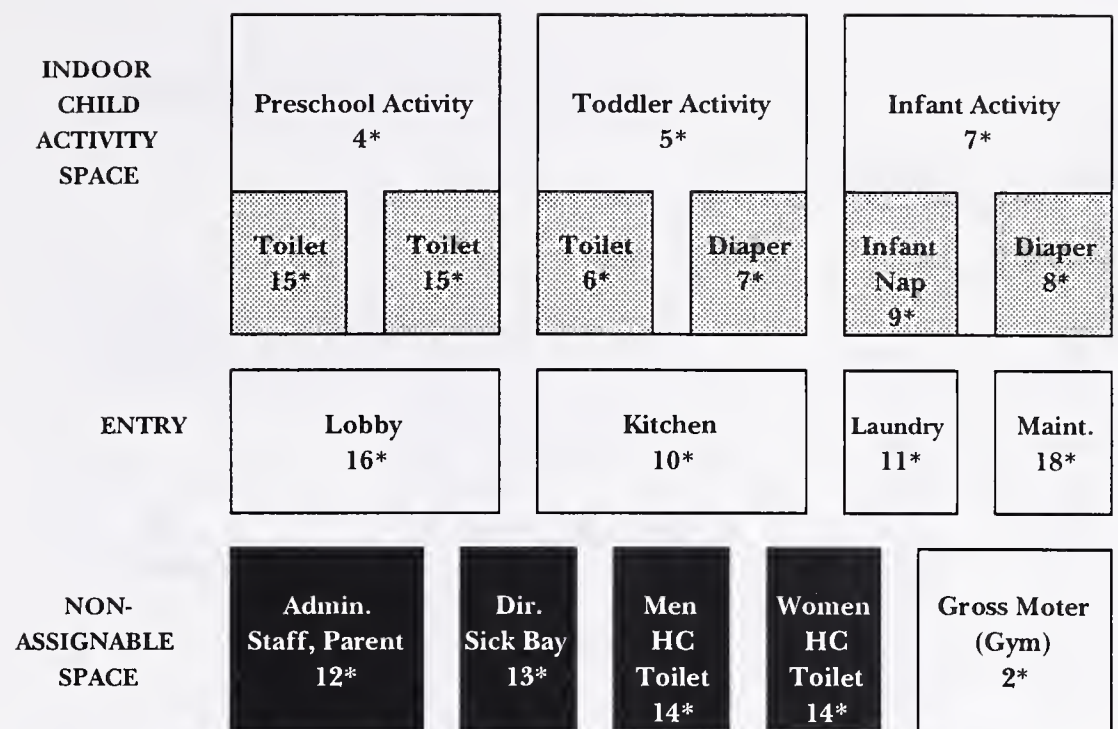
The Basic Prototype is a center which serves 36 children. In accordance with OFC requirements, the child care center is designed for one group of 7 infants, one group of 9 toddlers and one group of 20 preschoolers, during a single daytime shift. As previously established, OFC requires a minimum 35 square feet of child activity space per child, exclusive of halls, bathrooms, kitchens, storage, offices, diapering, napping areas, cubbies, cabinets and other administrative/support areas. The Basic Prototype expands upon the OFC minimum to allow 40 square feet of child activity area per child, additional gross motor area, and added area for the support functions at a child care center. The total square foot area of the Basic Prototype program is 4,040 square feet.



The Basic Prototype allocates space based on the following components:

- child activity space
- assignable space
- non-assignable space
- circulation and corridors
- structure and building bulk



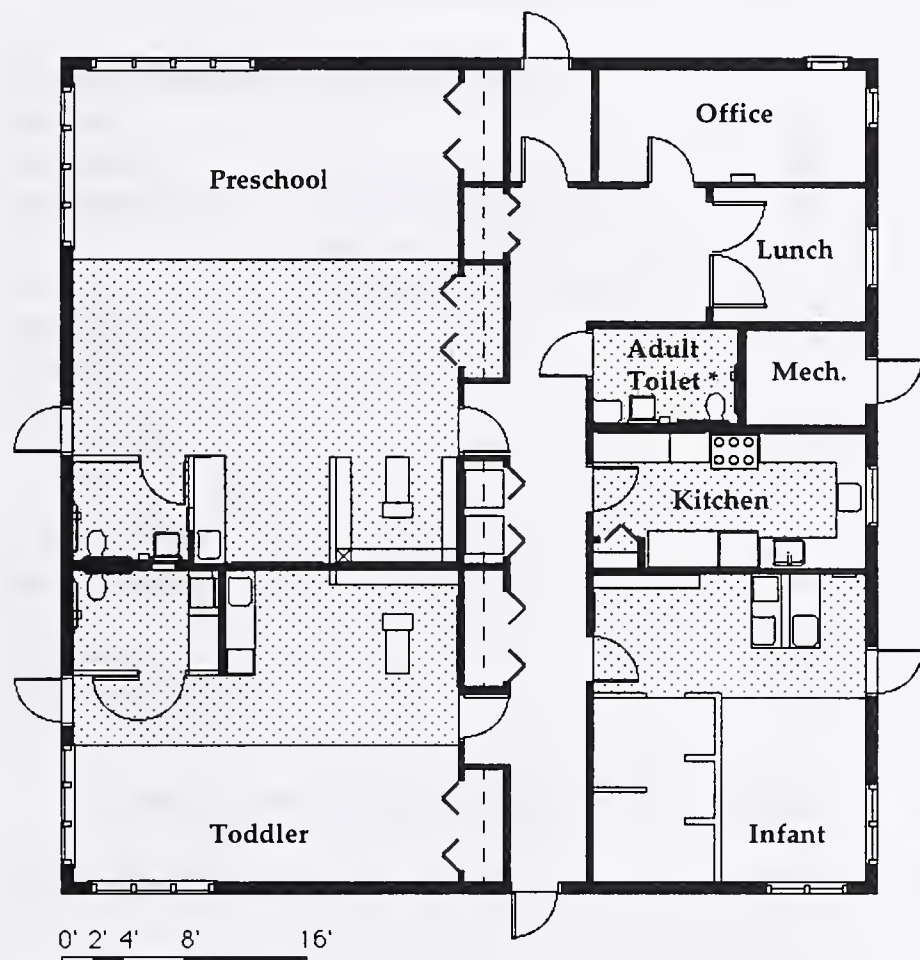


White areas are Primary Activity Spaces, Gray areas are Assignable Spaces, and Black areas are Non-Assignable Spaces

* Asterisked numbers refer to page numbers in Chapter 8 which contains detailed information on each room or area.

Examples of Prototypical Child Care Centers

New free standing building



Floor Plan

2986 S.F.

* Adult toilet is a unisex handicapped accessible restroom which requires a variance from the State Plumbing Code Requirements (code change in progress).

PROGRAM AREA CHART

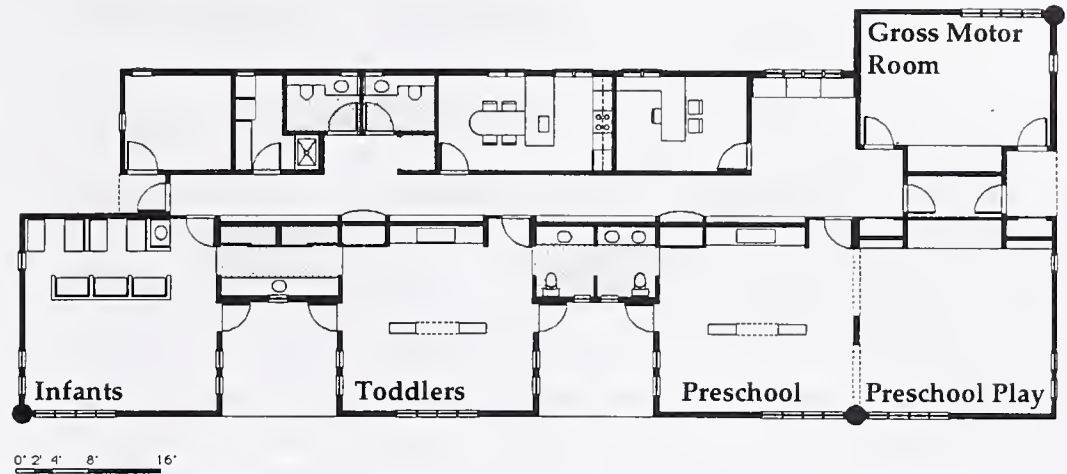
		Prototype SF Area	OFC Standard SF Area
Activity and Assignable Area			
Preschoolers (20)	Activity	800*	700*
	Cubbies	20	20
	Toilet (2 stalls)	65**	65**
	Storage	45	45
	Casework (nic. upper)	65	65
Toddlers (9)	Activity/Nap	360*	315*
	Diapering	20	20
	Toilet (1 stall)	45 **	45 **
	Storage	20 ***	20 ***
	Cubbies	9	9
Infants (7)	Casework (nic. upper)	35	35
	Activity	280*	245*
	Nap	134	120
	Diapering	20	20
	Cubbies	7	7
	Storage	20	20
	Casework (nic. upper)	30	30
	Gross Motor Room	<u>300</u>	<u>0</u>
Subtotal Activity and Assignable Area		2,275	1,781
Non-Assignable Support Space			
Kitchen		135	135
Laundry		50	50
Administration	Work/parent/staff	150	150
	Director/Sickbay	120	120
Toilets	Adults (2 barrier free)	90	90
Custodial		25	25
Storage		50	50
Coat Closet		10	10
Mechanical		135	135
Circulation			
Entry Vestibule		50	35
Lobby		175	150
Corridors		450	400
Walls/Partitions		325	275
Subtotal Non-Assignable Space		<u>1,765</u>	<u>1,625</u>
Gross Building Area		4,040	3,406

* Meets OFC child activity space square foot requirements (35 s.f./child)

** Space handicap accessible, child size fixtures

*** Cot storage is assumed to be under play platforms

New free standing building with a gross motor room

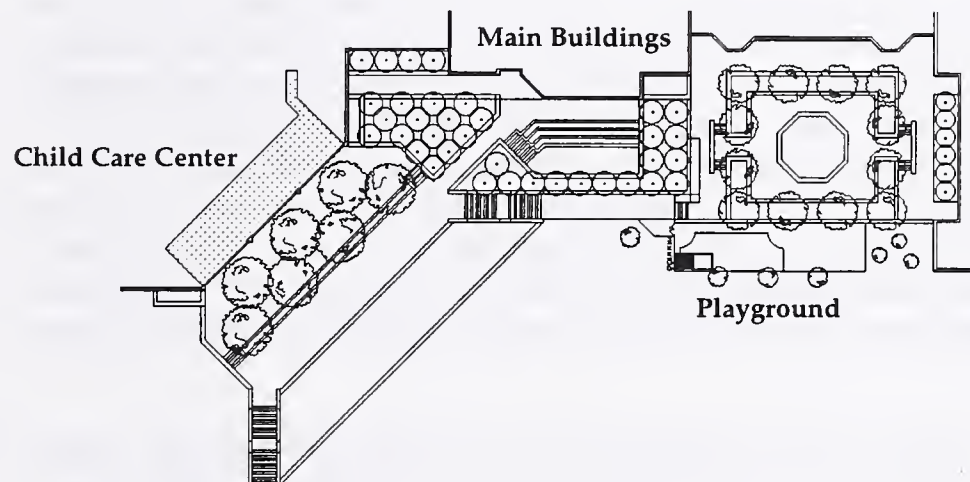


Floor Plan

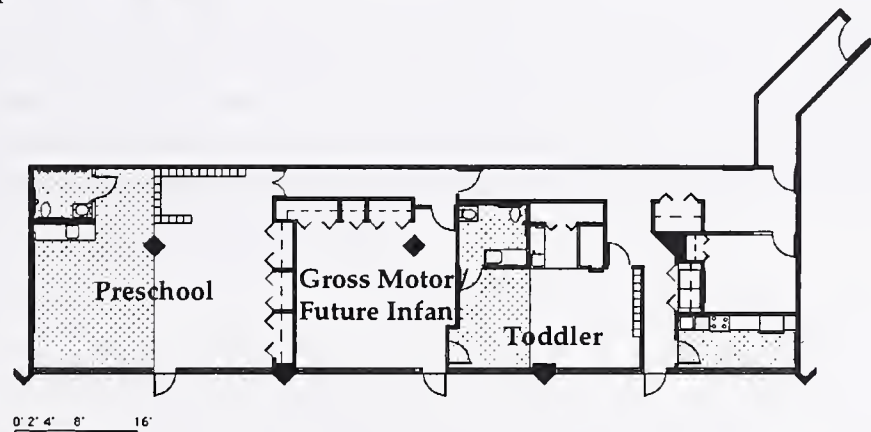
Prototype application in a renovated building where some of the program support spaces, such as adult toilets, mechanical space, entry vestibule, lobby, and the main kitchen are provided by the existing facility.

The Child Care Center includes:

- One toddler group (9 children)
- One pre-schooler group (20 children)
- A gross motor room that was designed to accommodate a future infant group if needed.
- Outdoor play area may not be in close proximity to Child care center due to limitations of existing conditions.



Site Plan



Floor Plan

2704 S.F.

Prototype Variations

Double Basic Prototype

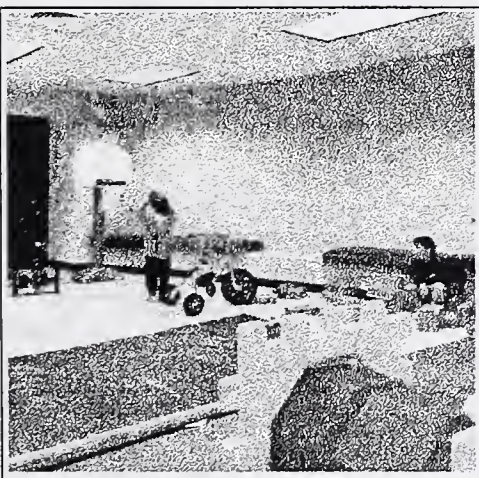
The Double Basic Prototype serves 72 children essentially by doubling the Basic Prototype. The center serves two groups of infants, of toddlers and of preschoolers. By doubling the activity areas of the Basic Prototype, this model accommodates twice the number of children, while kitchen, adult bathrooms, staff/parent/administration area, and building support functions can be shared by both areas and will only need to be partially enlarged to accommodate the needs of the larger capacity. OFC requires all programs with forty or more children to have a full-time, non-teaching director and director's administrative space (7:05: (6) (c) Office for Children). In addition, programs with more than 39 children require an additional full time lead teacher. Another lead teacher is required for every increase in capacity of forty children (section 7.06 (16) Office for Children).

Approximate total area: 7,000 square feet

Play areas of 75 square feet/child are required, but only one developed playground per age group is needed. Active use "equipment" areas can be shared by both groups of the same aged children. Exterior circulation, drop off and parking must be adequate for the population.

Afterschool Prototype

Basic Prototype with an Afterschool Room. The demand for afterschool care is difficult to predict. It is best to set up programs on a case by case basis. Children 4 years, 9 months to 7 years may not be in groups larger than 30 (OFC 7:06 (23) (a)). For purposes of illustration, this model assumes an afterschool population of ten children, 35-50 square feet per child, in a separate room. The gross motor, or resource area, of the recommended prototype could support an afterschool area if an additional room is not possible. This room can be used as a "base of operations"; most Afterschool programs will involve many activities scheduled outside the building.



Indoor Space Requirements for Holidays and Vacations

If the number of Afterschoolers is small and the duration of their stay at the center is short, they may use the gym and/or other large spaces of the center and outdoor play areas. During vacations, including summer, Afterschoolers may require their own room. For brief holidays, there can be a mixing of Afterschoolers and older preschoolers (4 years, 9 months) provided after schoolers are under 7 years of age and the maximum number of occupants per room (20) is not exceeded.

Double Shift

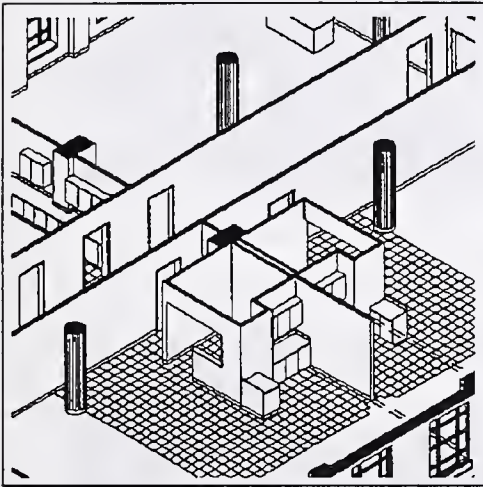
The design for this model is based on the Basic Prototype with the following specific changes which will accommodate a second shift of children and staff. If the number of children is fewer on the second shift, age groups can be combined as described in Chapter 7. This allows the second shift center to condense its use of space and maximizes staff efficiency.

Sick Care Prototype

Space allocated within the Child Care Center to serve as sick area.

Educational Training Facility

Accommodations can be made within the child care center to enable college students to observe operation of the school for educational purposes. Observation may be facilitated using one-way viewing glass (with mirrors on the children's side) and sets of microphones monitoring the main areas that are being observed. Doors with glazing can also facilitate observation.



Drop-In Center

Provision can be made within the child care center for children to be accommodated on a short term, non-permanent basis. Space and staff requirements must comply with Office of Children Regulations.

Prototypical Outdoor Play Area Plans

A single, structured play area for all three age groups: preschools, toddlers, and infants.

Desired elements in an outdoor play area include play structures, play houses which also offer sun and wind protection, and storage sheds. These structures are scaled to the children and can act as elements within the prototypical outdoor play area.






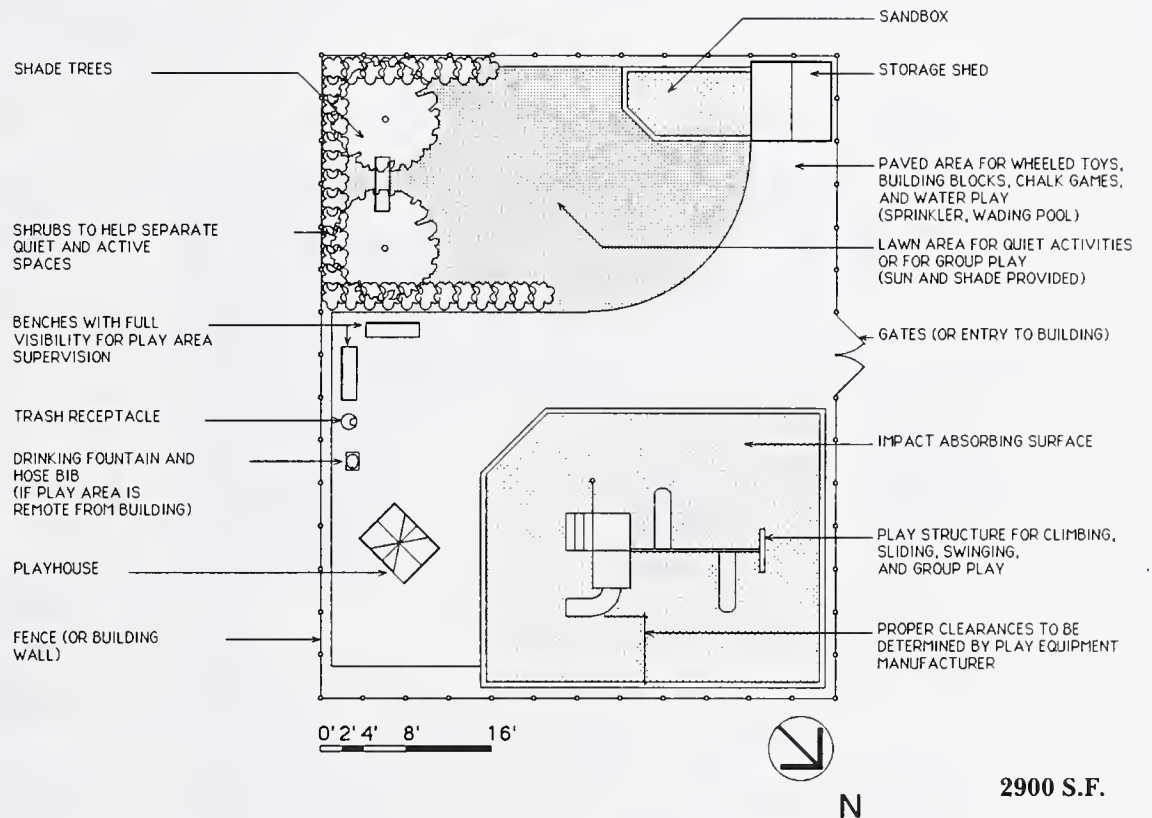
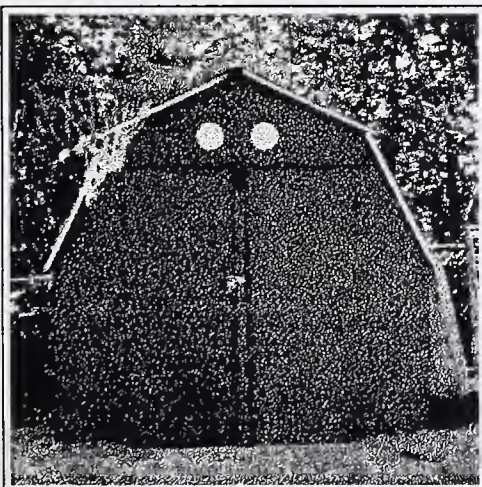
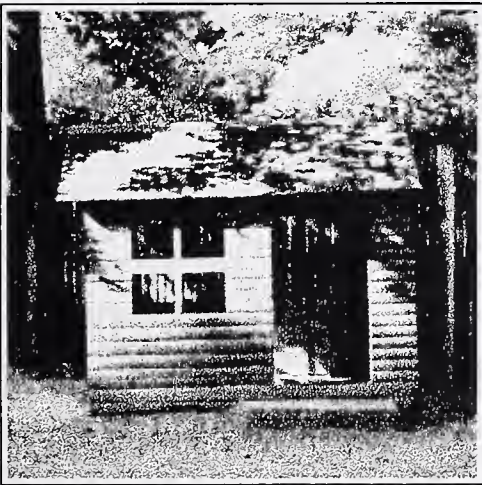
Full body and group play are provided by a play structure for climbing, sliding, and swinging. The structure is sized for preschoolers, with one of two swings usable by infants and toddlers. It is installed within an area of impact absorbing material.

Cognitive and creative play are available beyond the structured play area. The pavement will accommodate varied activities, including building with blocks, chalk games, and drawing, playing with wheeled toys, and water play. The lawn area is most useful for quiet play, story telling, and resting. Quiet group games can take place here in the sun or beneath the shade trees. Both the sandbox and playhouse can be used creatively by smaller groups of children.

Benches are located in both the quiet and active areas, to be used by children and staff in the sun and shade.

Plan One Legend

-  GRASS
-  SAND AND IMPACT ABSORBING SURFACE
-  PAVEMENT



Two relatively distinct zones within the play area: one for preschoolers, and one for infants and toddlers.

Significantly more space is required for this option. The zones are at opposite ends of the area, and are further separated by the garden, playhouse, storage shed, and shade structure/seating area. As noted earlier in this chapter, creating more than one zone increases overall safety for the children and improves the staff's ability to monitor activities.

In both zones, full body and group play are offered in each structured play area. For infants and toddlers, opportunities exist for sliding, swinging, and riding spring toys. Also, a small area surfaced with a rubberized material is devoted to infant crawling, stair climbing, and sliding activities.

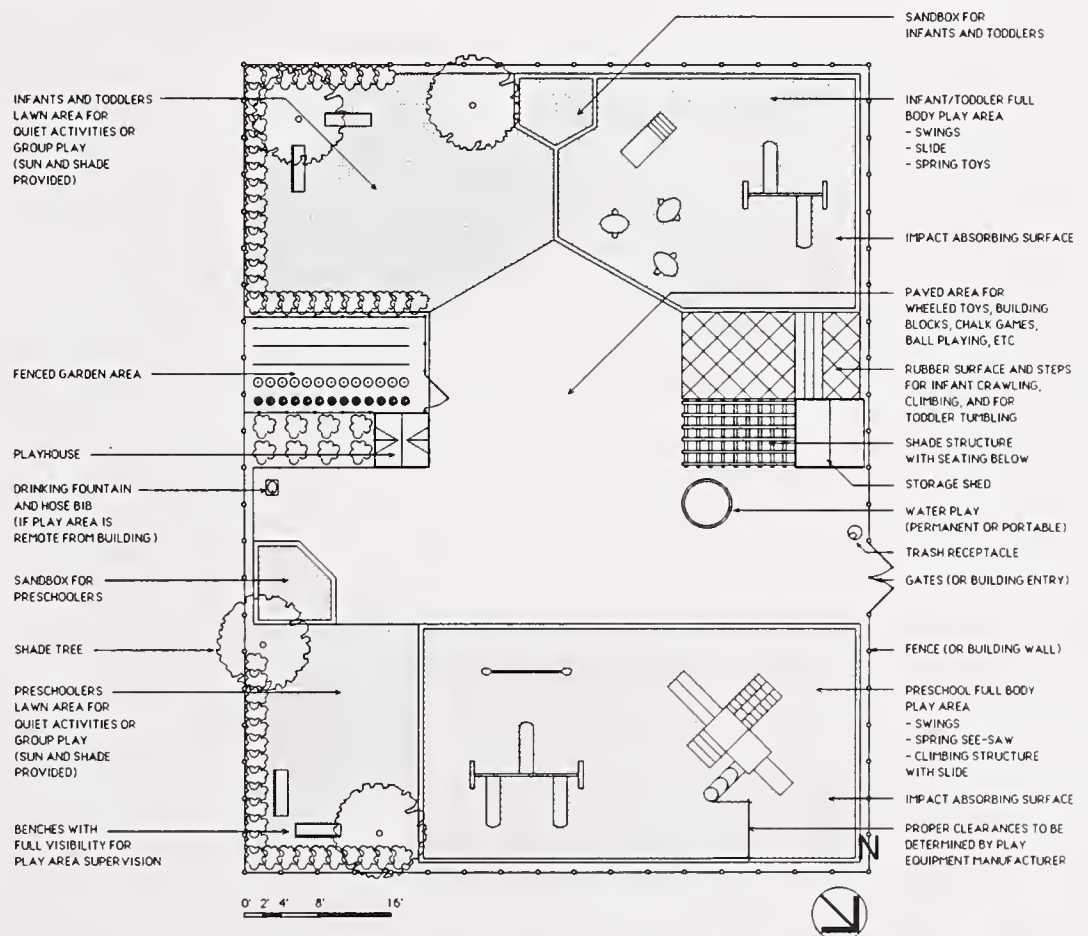
Cognitive and creative play are provided beyond the structured area. A large expanse of pavement shared by all age groups can be used for wheeled toys, building with blocks, chalk games, drawing, ball games, and waterplay. A trellis structure covers a portion of this paved area, giving shade for seating below. A playhouse is located at the edge of the pavement for use by small groups of children, and a sandbox is included in each zone. All children can enjoy the garden, which is fenced to protect the plantings.

A lawn area is shown in each zone, for quiet play and activities such as storytelling, singing, sitting games, and resting. The lawns are edged with shrubs, to screen the fence (or building wall) and to soften the landscape of the play area. Trees provide shade for these quiet zones.

Plan Two

Legend

-  GRASS
-  SAND AND IMPACT ABSORBING SURFACE
-  PAVEMENT



5900 S.F.

ESTIMATING COSTS

Development Costs

Construction Costs

Furniture and Equipment Costs

Outdoor Play Area Costs

Outdoor Play Area Elements: Cost Range

Operational Costs

Project Cost Worksheet

Outdoor Play Area Cost Worksheet

Operational Cost Worksheet

ESTIMATING COSTS



This chapter discusses construction and provides methods for estimating its costs. In a child care center development project, the capital budget is divided into two main categories. The first category includes four types of costs:

<i>Development</i>	<i>Furniture and equipment</i>
<i>Construction</i>	<i>Outdoor play area</i>

*The second category, **operational and maintenance costs**, includes the funds to staff, operate, and maintain the center after its construction.*

Each of the categories above are discussed in the following sections.

Development Costs

During the planning of a child care center the client and the designers must estimate the costs required to build the project. The estimate will be the basis for funding the project. Therefore, a methodology for establishing an accurate projection of the expected costs is needed.

Planning and designing a State-funded child care center involves several phases, including a formal funding request, study, design, and preparation of construction documents. During each of these phases, the State requires the preparation of a cost estimate.

The precision of the cost estimate at each phase is directly related to the accuracy of the information being estimated. Construction cost for the initial planning phase will be based on a general cost-per-square-foot of building area (or site) that best simulates the plan conditions. This method of estimating is based on utilizing past experience from similar projects, whether the team doing the estimate is a State agency, architect, professional estimating service, or contractor. This estimate is preliminary in nature and should only be used as a starting point. The estimated construction cost at the conclusion of construction document preparation, must be precise and detailed. This estimate should take into consideration actual conditions such as layout, materials, building system, availability of products and services, current economic situations (this effects product and labor cost), terrain, site, in house construction ability, etc.

State law requires the study phase estimate done for State funded projects be of sufficient accuracy to define the project within 10% of final program area. The validity and reliability of budget estimates done at pre-study phases is critical to the development of a child care center within the State system.

Related non-construction costs include design, management, legal, permitting, State agency overhead, and other contingency costs. These are generally referred to as development costs. On State projects, development costs can add up to 40% to the construction cost. With projects proposed by groups or agencies other than the state, these development costs will be similar, 35% to 45% of the construction cost. A Cost Estimate Worksheet at the end of this chapter includes development costs.

Construction Costs

Construction costs may include the costs for materials, labor, contractor's overhead and profit, testing of construction, etc. They might also include cabinet work, which is integral to the center and built by the general contractor. Both costs are discussed below.

New Construction Versus Renovation

New construction entails a significantly different scope of construction and costs than does a renovation. In renovation, much depends on the condition of the existing building, the existence of hazardous materials and the condition of the electro/mechanical systems. The location of the center within a building will determine the amount of mechanical work necessary and the ease with which construction can take place. Maintaining operation in the host facility during construction may require that certain items are completed after working hours on an overtime basis. These items and others are significant cost factors which boost the cost of renovation. Renovation costs are often higher than those of new construction.

Other Construction Cost Considerations

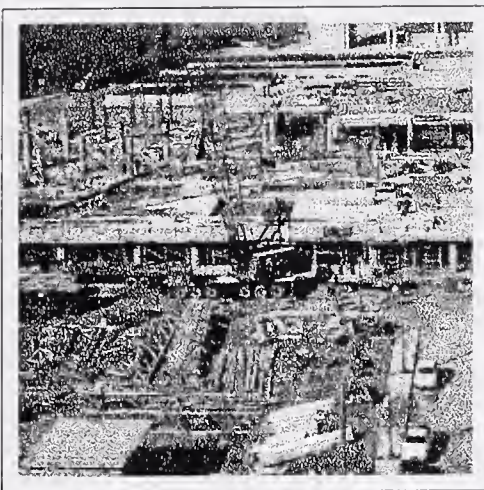
Certain simple projects might cost considerably less under favorable conditions. These projects are difficult to generalize, but would normally be limited to interior finishes and incidental plumbing and/or mechanical work. For reasons of life safety, code compliance, and financial accountability, these projects still require professional assistance. Often this work may be completed by the institution's own staff with minimal assistance from outside contractors for mechanical or electrical items. This reduces the cost of construction by eliminating labor and the general contractor's overhead costs.

Variations in child care center design do not alter the cost as much as the size and location of the construction project. Size and location can potentially add 25-35% to the general contractor's overhead expenses, making construction costs higher than expected. For example, a site may involve difficult terrain or the location may have inherent cost differences, e.g. an urban center versus one on Cape Cod.

Cost information in this Handbook is taken from studies and technical assistance projects conducted for the DCPO Office of Programming and other public and private sector child care centers in facilities throughout Massachusetts. The costs of these facilities are briefly described in later sections.

Construction Cost Range

In the pre-design phase it is safest to assume a range of construction costs of between \$50 (interior renovation) - \$140 (new construction) per gross square foot of the facility with the following stipulations:



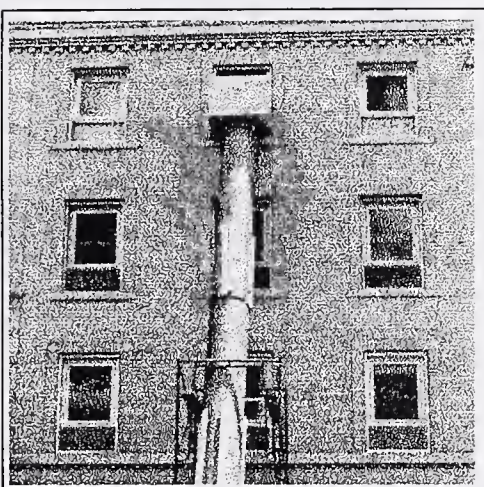
New Construction

For new construction this figure includes site work, exterior and interior construction, structural work and mechanical/electrical work; it excludes any expenses related to bringing utilities to the site or any difficult site conditions.

The following cost ranges are for the various types of construction options one may encounter in the creation of a new center. The estimates below represent the construction costs during the 1991-1992 fiscal year.

New Wood Frame Construction. Approximately \$120 - \$140 per square foot for new wood frame construction of an independent, 36-child center should be assumed.

New Commercial Grade Construction. Approximately \$135 - \$150 per square foot is required to build a new institutional quality, 36-child center with block or brick walls, steel frame and concrete floors.



Renovated Construction

This figure represents complete interior renovation, including new partitions, finishes and mechanical/electrical distribution systems and exterior construction for an outdoor play area.

Low Cost Renovation. Renovations to provide a new child care center in a downtown office building will cost between \$55 - \$75 per square foot for interior space. The lower end cost can be achieved in a regional or mid-sized urban center similar to Lawrence. A higher figure should be expected in a location similar to downtown Boston.

In some urban locations an on-site play area may not be feasible and adjacent parks or playgrounds are used for the outdoor play area. If an outdoor space is available on site, the added costs will be \$10 to \$12 per square foot of play space. This assumes a relatively flat site, easily accessible at ground level and adjacent to the child care center.

This cost reflects an abbreviated project scope. Space that is easily converted to child care use will likely have abundant natural light, adequate plumbing, heating and air conditioning, existing sprinkler systems, interior finishes not out of character with child care, easily removed partitions, and be handicapped accessible .

The suitability of construction for the new occupants should be verified by a licensed structural engineer.

If not already suitable, plumbing, heating and ventilation of office building space for a child care center can be difficult since many buildings, designed with central systems cores, require the extension of mechanical systems to each primary activity space. If the interior renovation requires large amounts of this work, an estimated \$40 per square foot can be added to the construction cost.

Masonry Building Renovation. Another common renovation type involves centers in rural institutional settings. These buildings were constructed approximately 30 to 75 years ago, typically of masonry. The estimated renovation costs of these centers is between \$75 and \$85 per square foot. While the host buildings were of sound construction (aside from mechanical systems which were often inadequate or inappropriate), their institutional

character may need to be modernized to create an appropriate environment for a child care center. Renovations can include the complete replacement of windows, doors, interior finishes, reconfiguration of rooms, and the upgrading of existing mechanical systems.

Wood Frame Building Renovation. A center may be located in an older wood frame building. In this case, the character of the spaces may be more easily updated to be suitable for a child care center; the renovation itself, however, can involve an extensive amount of work. To upgrade the building to a usable condition, wood windows may have to be entirely replaced, heating and mechanical systems replaced, and new room partitions built. The cost is estimated at \$95 per square foot.

Furniture and Equipment Costs

Furnishings and equipment in a center are typically provided by the owner or operator and are not usually part of the general construction contract. They are generally purchased complete. These items include desks, chairs, files, toys, and play equipment. They do not include kitchen appliances, which are usually provided by the general contractor and included in the construction cost ranges.

Furniture and Equipment Items

Custom Made Cabinets

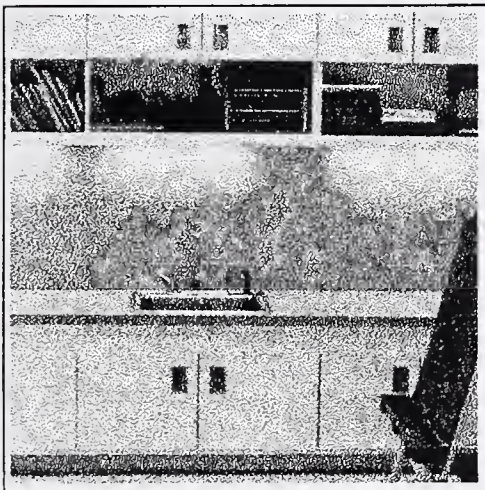
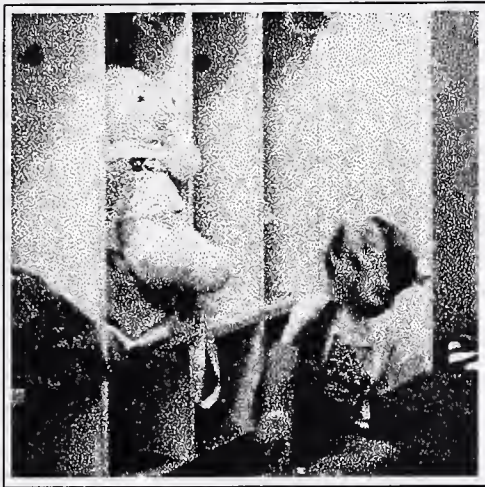
Millwork (custom made counters, climbing structures and equipment) is a key component of the interior of any child care center due to the particular developmental needs of children. The condition and circumstance of the host space has little impact on the cost of millwork.

Some of the items below are also available as factory-made furnishings. Factory-made items (primarily movable furniture and equipment that has been evaluated for its suitability) may substitute for custom-made millwork. The quality and material range of factory produced millwork varies greatly. Custom-constructed millwork made from common carpentry materials offers complete adaptation to needs, particular sizes, and designs. The cost is similar to the medium range cost of comparable factory products.

Millwork for a 36-child center with three separate activity rooms will cost approximately \$30,000. Ideally, millwork should include:

Infant Room

- Waterbed platform, carpeted
- Shelves for toy storage
- Small climber with slide
- Diapering counter/changing table
- Shelves for diaper storage
- Cubbies
- General storage shelves



Toddler Room

Waterbed or play-pit platform
Carpeted risers
Rolling storage unit
Dramatic play structure with loft
Climber with slide
Cubbies
Diapering counter /changing table
Storage shelves
Book shelves

Preschool Room

Group meeting risers
Dramatic play structure with loft
Rolling storage units
Climber with slide
Carpeted play platform
Cubbies
Water play counter
Storage shelves
Book shelves

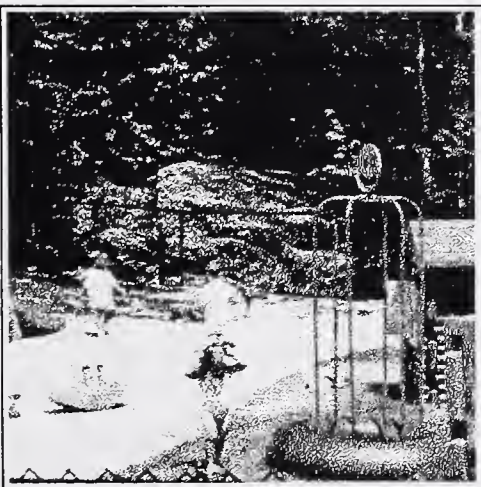
Certain pieces of factory-made furniture and equipment are a necessary part of a child care center. For a typical 36-child center these items will cost approximately \$9,000. Furniture and equipment may include the following:

- 3 Rocking chairs
- Floor cushions
- 29 Cots or mattress
- 1 Sofa
- 1 Coffee table
- 36 Children's chairs
- 6 Children's tables (Seat 8)
- 1 Work table
- 4 Side chairs
- 6 File cabinets
- 1 Director's desk
- 1 Secretarial desk
- 2 Desk chairs
- 7 Cribs
- 2 Sand and water tables

Outdoor Play Area Costs

Demolition and Earthwork Costs

Costs for demolition and earthwork can vary greatly from site to site based upon existing conditions and topography. For example, if the site for a proposed play area is a relatively flat, open lawn with no existing structures, pavements, or vegetation, then no demolition and little earthwork will be required. Alternatively, if the site is hilly and contains a concrete walk and a lot of overgrown shrubbery, then the pavement and vegetation will need to be removed and disposed of and the site regraded to create level areas for play. These costs must be evaluated at the outset and included in the development of a site budget.



Play Equipment Costs

One of the most expensive components of an outdoor play area is the play equipment. Unfortunately, it is impossible to categorize equipment due to the wide variety of types available. Because of its inherent cost, equipment should be selected carefully, and that installation costs (which can be high and potentially double the cost of an item) must be carried in the site budget.

OUTDOOR PLAY AREA ELEMENTS: COST RANGE

The following is a list of items typically included in the construction of an outdoor play area, with the unit cost range for each. The intent of the following chart is to provide a range of average values that can be used to aid decision-making during the programming and design processes.

CATEGORY	ITEM	COST
Fencing/Gates	Chain link	\$15 LF min.
	Pre-fab wood	\$35 LF min.
	Steel	\$40 LF min.
	Custom wood	\$50 LF min.
Paving (including gravel base)	Bituminous concrete	\$12/SY
	Cement concrete	\$40/SY
Edging (6" high)	Pressure-treated timber	\$15/LF
	Cement concrete	\$25/LF
Retaining Methods/Walls (3'-0" high)	Planted slopes (up to 2:1 slope ratio)	\$20/LF
	Rip rap (up to 1:1 slope ratio)	\$25/LF
	Pressure-treated timber retaining wall	\$30/LF
	Cement concrete retaining wall	\$75/LF
	Laid stone retaining wall	\$90/LF
Impact-Absorbing Surfaces (including gravel base)	Loose fill materials	\$45/CY
	Continuous rubber surfaces	\$20/SF
	Rubber tiles	\$20/SF
Drainage	Surface drainage	Dependent upon soil and site conditions
	Catch basins	\$1500/CB
	Piping	\$15/LF
Lawn areas	Loam/Seed	\$6/SY
	Loam/Sod	\$9/SY
Planting	Varies	Dependent upon species and size

Operational Costs

The final category of costs significant to establishing the feasibility of opening a center are the day-to-day operating costs. These include salaries and benefits for teachers and administrative personnel, utility costs, supply costs, and others. A checklist form for itemizing operational costs is included at the end of this chapter.

Estimating Operating Costs

Anticipating the operating cost of a child care center is as important in preliminary planning as understanding the requirements for physical spaces. While this Handbook does not provide direction on setting up management structures or developing child care programs, a worksheet is provided to make preliminary estimates of the operating cost. The worksheet form will be applicable to most management or organizational situations, but can be modified to suit particular circumstances. Assumptions on which this format is based are as follows:

Teaching and administrative staff people are professional staff whose salaries are paid by the child care center. The Child Care Resource and Referral Center (see Appendix A) in your area can provide current local salary levels, but rates can vary according to geographic area and should be adjusted for inflation. Salary and related costs (taxes and benefits) account for over 80% of the operating costs for most centers, therefore accurately estimating salary expenses is the most critical planning item. Taxes and benefits are estimated at 25% of the payroll total.

Staffing levels and qualifications are regulated by the Office for Children. OFC regulations should be consulted for professional requirements for each staff level. Basic staffing is as follows:

Infants:	1 teacher and 1 entry level teacher per 7 infants
Toddlers:	1 teacher and 1 entry level teacher per 9 toddlers
Preschool:	1 teacher and 1 entry level teacher per 20 preschoolers

The total amount of teaching staff time will depend on the length of the center's daily operation, which should be established according to the needs of employees at the host institutions or agencies. Most centers operate longer than a single full-time shift, and therefore need additional staff people. Overlap time at shift changes is needed; an hour or more should be included in calculations of total staff time.

A full-time director, a half-time bookkeeper and a half-time secretary are included in the budget.

Rent, maintenance, utilities, janitorial services and other facility costs should be identified. These are assumed to be paid by the host agency or institution and are not included in the child care center budget. If the center is expected to assume any of these costs, they should be included in the budget.

Insurance costs are difficult to determine due to the rapidly changing liability insurance environment. The cost of \$500,000 in liability coverage was estimated at \$70 per child per year in 1986 (per Governor's Office of Human Resources).

All meals are supplied by the center. Diapers are normally provided by the parents, costs are for emergency supplies only. You may wish some policies.

THE HISTORY OF THE

REIGN OF KING CHARLES THE FIRST

IN WHICH ARE CONTAINED
THE
MOST IMPORTANT
EVENTS OF HIS REIGN
FROM THE BEGINNING OF HIS
MAYESTY'S REIGN
UNTIL HIS DEATH
IN THE YEAR 1649

BY
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PROJECT COST ESTIMATE WORKSHEET

New Construction and Renovation

1. Determine the gross area which you intend to construct or renovate or use the recommended area from the appropriate prototype program.
2. Choose the cost per square foot from the ranges discussed above. Since these costs are 1991 values; they should be increased at a rate of 6% per year for escalation.

BUILDING CONSTRUCTION COSTS

Area in gross sf sf _____
Multiply by cost/sf \$ _____

SUBTOTAL \$ _____

FURNISHING AND EQUIPMENT COSTS

Add millwork cost \$ _____
Add furnishings \$ _____

SUBTOTAL \$ _____

PLAY AREA COSTS

Play area option \$ _____
Pavement add on \$ _____
Retaining walls/stairs \$ _____
Additional planting \$ _____

SUBTOTAL \$ _____

DEVELOPMENT COSTS

10% design contingency \$ _____
Design fees \$ _____
Permitting fees \$ _____
Insurance fees \$ _____
Financing costs \$ _____
Legal \$ _____
Agency overhead \$ _____

SUBTOTAL \$ _____

TOTAL ESTIMATED COST \$ _____

THEORY OF THE EARTH

CHAPTER I. OF THE ORIGIN OF THE EARTH.

THE EARTH, as we see it, is a globe, or sphere, of a very great size, and is composed of a solid mass of matter, which is divided into several parts, or regions, called continents, islands, and seas.

The surface of the globe is not perfectly smooth, but is covered with mountains, hills, valleys, and rivers, which are the result of the action of various causes, and which give it its present appearance.

The interior of the globe is also not uniform, but is divided into several layers, or strata, which are composed of different materials, and which are separated from each other by distinct boundaries.

The first layer, or stratum, which we come to, when we descend into the earth, is the crust, or outermost layer, which is composed of a thin layer of solid matter, and which is the part of the globe which we see.

Below the crust is the mantle, or middle layer, which is composed of a thicker layer of solid matter, and which is the part of the globe which is hidden from our view.

Below the mantle is the core, or innermost layer, which is composed of a still thicker layer of solid matter, and which is the part of the globe which is the most hidden from our view.

The crust, mantle, and core, are the three principal layers of the globe, and they are separated from each other by distinct boundaries, which are called the crust-mantle boundary, the mantle-core boundary, and the core-mantle boundary.

The crust is the part of the globe which is the most exposed to the action of the atmosphere, and it is the part of the globe which is the most subject to the action of the elements.

The mantle is the part of the globe which is the most hidden from our view, and it is the part of the globe which is the most subject to the action of the heat of the interior.

The core is the part of the globe which is the most hidden from our view, and it is the part of the globe which is the most subject to the action of the heat of the interior.

The crust, mantle, and core, are the three principal layers of the globe, and they are separated from each other by distinct boundaries, which are called the crust-mantle boundary, the mantle-core boundary, and the core-mantle boundary.

The crust is the part of the globe which is the most exposed to the action of the atmosphere, and it is the part of the globe which is the most subject to the action of the elements.

OUTDOOR PLAY AREA COST ESTIMATE WORKSHEET

The estimated costs below are based on a moderately flat site with some existing trees and easy access to the child care center. Adjustments should be made for sites requiring walls and steps, new trees for shade, or a play area to be located on pavement or a rooftop. A rooftop site, for example, will incur higher costs for surface material.

The basic estimated outdoor play area costs for a 36-child center, based on the example illustrations of each outdoor play area option, are:

Option I - \$20,000

Option II - \$90,000

These are based on 1991 construction costs and should be increased at a rate of 6% per year.

Complete the following:

Option _____ \$ _____

For pavement or rooftop construction,
multiply option by 35 percent \$ _____

For retaining walls and stairs, add \$10,000 \$ _____

For additional planting, add \$8,000 \$ _____

Estimated Play Area Cost* \$ _____

** If outdoor play area improvements comprise entire scope of project, add 10% contingency.*

For more detailed outdoor play area items cost range, see Chapter 6, "The Prototypes."

OPERATIONAL COST ESTIMATE WORKSHEET

The summary below illustrates how to determine the actual costs per child to operate a center. Using this worksheet you can approximate the costs per child of your child care center.

PAYROLL

Salaries	Infant	Toddler	Preschool	Total
Entry level	_____	_____	_____	_____
Teachers	_____	_____	_____	_____
Head Teacher	_____	_____	_____	_____
Director	_____	_____	_____	_____
Bookkeeper	_____	_____	_____	_____
Secretary	_____	_____	_____	_____
Substitute	_____	_____	_____	_____
SUBTOTAL	_____	_____	_____	_____
Payroll Tax	_____	_____	_____	_____
Benefits (25%)	_____	_____	_____	_____
TOTAL	_____	_____	_____	_____

EXPENSES

Consultants	_____
License & Fees	_____
Insurance	_____
Educational	_____
Staff Development	_____
Office Supplies	_____
Maintenance	_____
Medical	_____
Kitchen	_____
Diapers	_____
Food	_____
Printing	_____
Postage	_____
Miscellaneous	_____
TOTAL:	_____
GRAND TOTAL	_____

ROOM DATA SHEETS

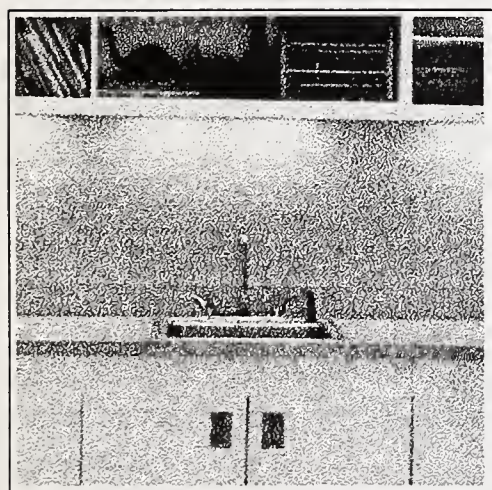
Gross Motor Room
After School Room
Preschool Activity Area
Toddler Activity Area
Toddler Diapering Area
Infant Activity Area
Infant Diapering Area
Kitchen
Laundry/Storage
Administration Office
Director's Office & Sick Bay
Adult Toilets
Children's Toilets
Entrance Lobby
Storage Rooms
Custodial Area
Mechanical /Electrical
Site and Building Access
Outdoor Play Area
Exterior Storage Shed
Access to Remote Outdoor Play Area

ROOM DATA SHEETS

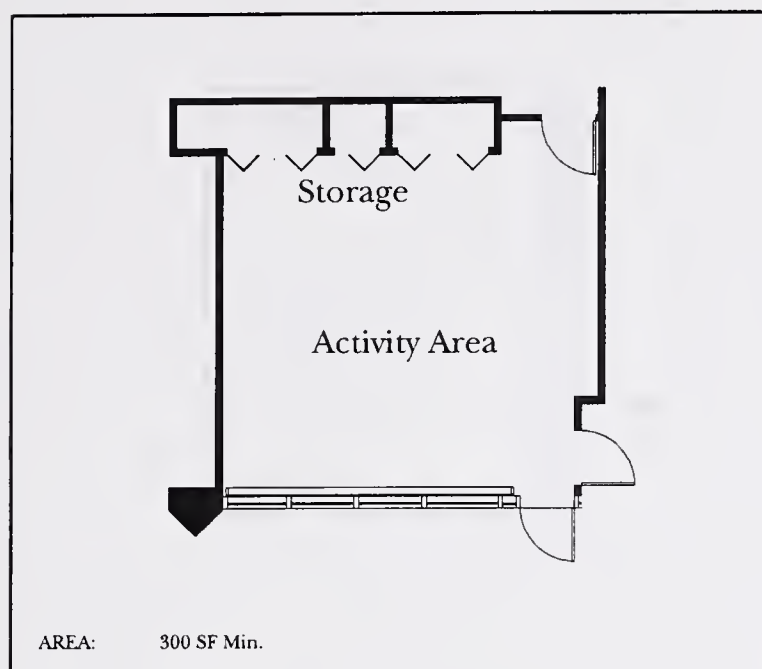
The Room Data sheets provide a comprehensive description of the functional and qualitative requirements for each space. The accompanying diagrams are shown to demonstrate only one possible layout for each programmed function. Each example is taken from an existing child care center or one that has been proposed. The final design of any child care center will vary from these examples. The final form will be determined by the specific project requirements and the space allocated for that project.

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GROSS MOTOR ROOM



FUNCTIONAL DESCRIPTION

PURPOSES: To provide a safe place for developing gross motor skills with sufficient space for bulky equipment which will flexibly accommodate a variety of activities. May double as a meeting space for staff and after school programs.

ACTIVITIES: Running, jumping, hopping, skipping, climbing, rolling, tumbling, and dancing.

QUALITATIVE CRITERIA

ORIENTATION: Near building entry/exit, separate from activity/sleeping areas.

VIEWS: Outdoors, child height windows, and into hall

VISIBILITY: All areas visible to staff at all times

PRIVACY: Noise control and good acoustics, no partitions

SAFETY: Avoid using sharp corners

FINISHES: Soft, durable, easily maintained surfaces

LOCATIONAL CRITERIA

LOCATION: Central with good natural light

ADJACENCY: Exterior entry/exit, toilets

QUANTITATIVE CRITERIA

AREA: 300 square feet minimum

OCCUPANCY: Maximum 20, one age activity group

QUANTITY: 1 Room

TECHNICAL CRITERIA

PARTITIONS: Durable and resilient quality, good sound control, child safe outlets

FLOORS: Low pile commercial carpet (glued down), base.

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc full-spectrum fluorescent with rheostat; outlets 36" above floor with integral outlet covers.

COMMUNICATION SYSTEM: Intercom to office, phone extension.

LIFE SAFETY: Smoke detector.

CLIMATE CONTROL: Protected thermostat, radiators, and HVAC, 10 cfm per person of outdoor air supply.

SIGNAGE: "Play Room" at interior entrance.

STORAGE: Deep storage area for storing bulky equipment.

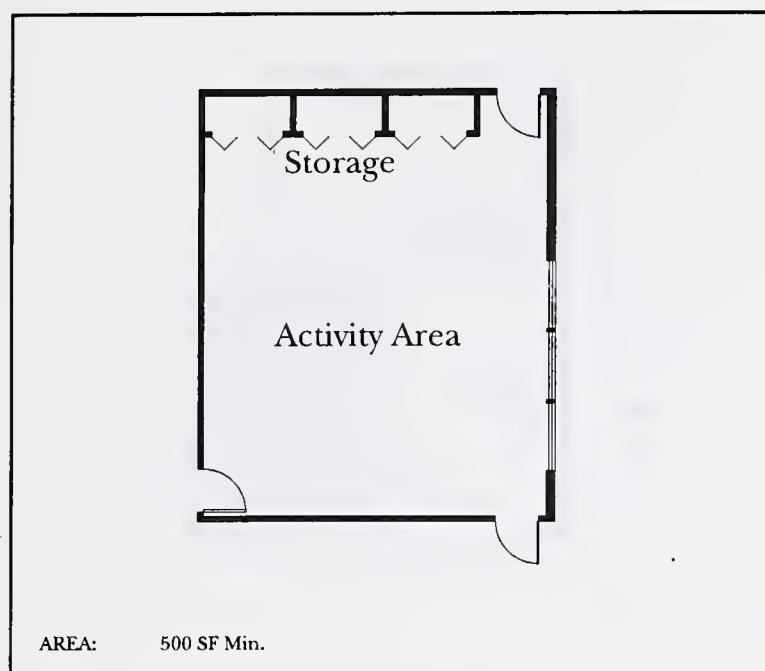
FURNISHINGS AND EQUIPMENT

CASEWORK: Ballet-type bars on portion of wall for use by infants learning to stand and walk (12, 18, 24 and 30" height above floor).

SUPPLIES: Bulky slide, balance, mats, bin for balls & ropes, smaller manipulatives, riding toys

OTHER: Provide outlet for sound system in storage closet and wiring for speakers.

AFTER SCHOOL ROOM



FUNCTIONAL DESCRIPTION

PURPOSE: Support the physical, cognitive, and social development of children ages 4 years, 9 months through 7 years.

ACTIVITIES: Sitting, walking, standing, playing, jumping, climbing, exploring, listening, reading, cooking, singing, talking, napping, crafts, and dramatic play.

QUALITATIVE CRITERIA

ORIENTATION: Self contained with access to adult toilets and outdoor play space.

VIEWS: Outdoors to play area, child height windows, landscape. Indoors: to activity areas & circulation.

VISIBILITY: All areas visible to staff.

PRIVACY: Areas for small groups and individual work, moveable low partitions.

SAFETY: No sharp edges below 4'. Limit child use of exterior doors.

FINISH QUALITY: Washable, durable, and easily maintainable.

LOCATIONAL CRITERIA

LOCATION: May be located farther from the entry than preschoolers, toddlers or infants.

ADJACENCY: Adult toilets, storage, outdoor access, and other age group activity areas.

QUANTITATIVE CRITERIA

AREA: 500 sf minimum (50 sf/child)

OCCUPANCY: 10 children, 1 staff

TECHNICAL CRITERIA

PARTITIONS: Gypsum.

WALL FINISH: Durable washable paint.

FLOORS: Resilient non-skid flooring and commercial grade unpadded carpet.

CEILINGS: Acoustical Treatment

LIGHTING: 70 foot candles, full-spectrum fluorescent and incandescent with dimmers.

ELECTRICAL: Outlets and switches shall be 4' above floor with safety covers for outlets

WATER: Close access to hot (120° F max) and cold water.

COMMUNICATION SYSTEM: Intercom to office, phone extension.

LIFE SAFETY: Smoke detector.

SIGNAGE: "After School Room" at entrance.

CLIMATE CONTROLS: Protected thermostat, radiators, and HVAC, 10 cfm per person outdoor air supply

HARDWARE: Exterior doors with key operated locks.

TACKABLE WALL: 8' wide, ceiling to floor.

FURNISHINGS AND EQUIPMENT

WATER USE: Built-in sink in cabinet. Wall mounted paper towel dispenser.

CASEWORK:

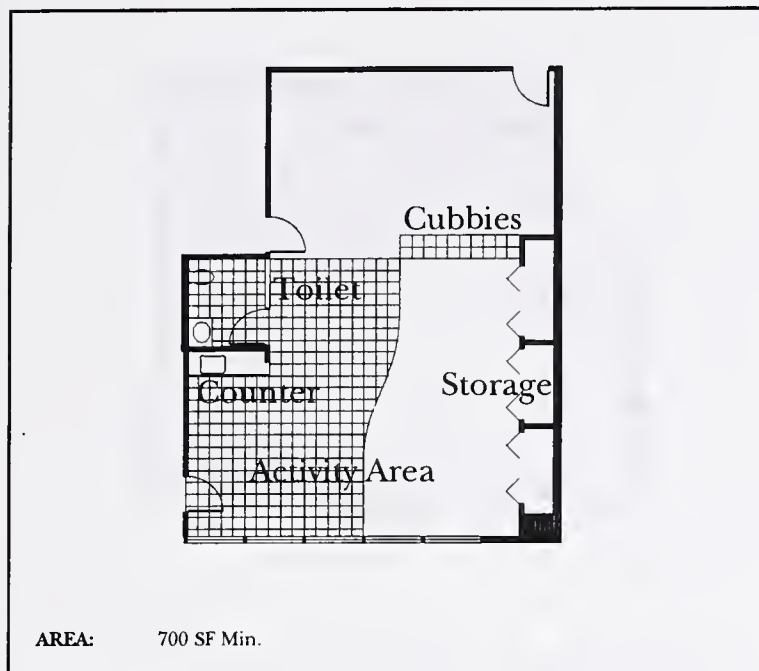
- * 10 lineal feet of upper casework, 36" high x 12" deep
- * 10 lineal feet of lower casework with 36" high counter
- * 8 lineal feet of lower casework with 22" high counter
- * Minimum of 20 cf lockable

WASTE HANDLING: One movable covered container with disposable liners.

OTHER:

- * Black slate chalkboard at least 32 sf with child safe track for erasers
- * Chalk, sign-in board at activity room entry
- * Cot or mat storage 31" wide x 68" long x 36" - 42" high with useable platform.
- * Easels
- * Tables & chairs for 10, child height
- * Bookshelves (display type)
- * Music equipment
- * Play structure
- * Mattresses & pillows
- * Bulky item storage
- * Cubbies for all children

PRESCHOOL ACTIVITY AREA



FUNCTIONAL DESCRIPTION

PURPOSE: Provide a setting supporting the physical, cognitive, and social development of children from the age of 2 years, 9 months through 5 years.

ACTIVITIES: Sitting, walking, standing, playing, jumping, climbing, exploring, manipulating, listening, reading, cooking, naps, singing, talking, crafts, and dramatics.

QUALITATIVE CRITERIA

ORIENTATION: Self contained with immediate access to trainer toilets and outdoor play space.

VIEWS: Outdoors: play area, landscape, child height windows. Indoors: other activity areas, circulation.

VISIBILITY: All areas visible to staff.

PRIVACY: Areas for small groups and individual work.

PERSONAL SAFETY: No sharp edges less than 4' height. Limit child use of exterior doors.

FINISH QUALITY: Washable, durable, and easily maintainable.

LOCATIONAL CRITERIA

LOCATION: May be located farther from the entry than toddlers and infants.

ADJACENCY: Preschool toilets, storage, outdoor access, other age group activity areas.

QUANTITATIVE CRITERIA

AREA: 700 sf min (excluding cubbies, non-play casework, toilets, and storage) Recommend: 840 sf (42 sf/child)

OCCUPANCY: 20 Children
2 Staff

TECHNICAL CRITERIA

PARTITIONS: Gypsum with sound control insulation.

WALL FINISH: Durable & washable.

FLOORS: Resilient non-skid flooring, commercial grade unpadded carpet.

CEILINGS: Acoustical treatment.

LIGHTING: 70 fc, full-spectrum fluorescent and incandescent with dimmer switch.

ELECTRICAL: Outlets and switches shall be 4' 0" above finished floor with child safe outlets, ground fault interrupter (GFI) outlets at water.

WATER: Provide hot (120° F maximum) and cold water.

COMMUNICATION SYSTEM: Intercom to office, phone extension.

LIFE SAFETY: Smoke detector.

SIGNAGE: "Preschool" at interior.

CLIMATE CONTROLS: Protected thermostat, radiators, and HVAC, 10 cfm per person outdoor air supply.

HARDWARE: Exterior doors with key operated locks.

TACKABLE WALL: Minimum 8' wide, ceiling to floor.

FURNISHINGS AND EQUIPMENT

WATER PLAY: Water trough with drain set in counter with rim no higher than 24". Wall mounted paper towel dispenser. A portable 24" high sand and water table may be used as an alternative.

CASEWORK:

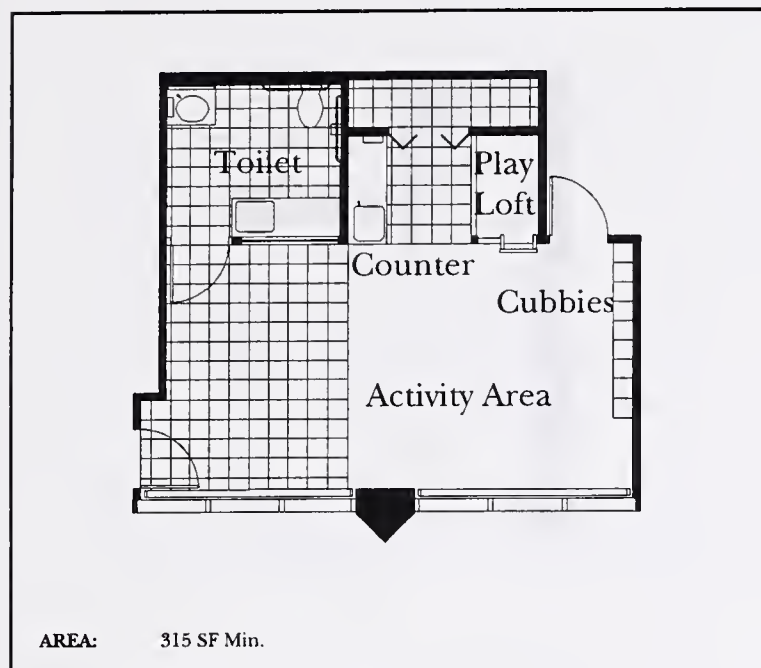
- * 20 lineal feet of upper casework, 36" high x 12" deep
- * 7 lineal feet of lower casework with 36" high x 25" deep counter
- * 8 lineal feet of lower casework with 22" high x 25" deep counter (or water play table)
- * Minimum 20 cf lockable cabinet space

WASTE HANDLING: One movable covered container with disposable liners.

OTHER:

- * Chalkboard at least 32 sf with child safe track for erasers
- * Cot or mat storage 31" wide x 68" long x 36" - 42" high with useable platform.
- * Easels
- * Tables & chairs for 24, child height
- * Bookshelves (display type)
- * Music equipment
- * Play structure
- * Mattresses & pillows
- * Bulky item storage
- * Cubbies for all children

TODDLER ACTIVITY AREA



FUNCTIONAL DESCRIPTION

PURPOSE: Provide a setting appropriate to the physical, cognitive, and social development of children 1 year, 3 months through 2 years, 9 months.

ACTIVITIES: Sitting, walking, crawling, running, eating, playing, climbing, napping singing, talking, whispering and listening.

QUALITATIVE CRITERIA

ORIENTATION: Self contained with access to toilet training and outdoor play areas.

VIEWS: Outdoors, hallway, and adjacent activity spaces; child height windows.

VISIBILITY: All areas visible to staff.

PRIVACY: Areas for small groups and individual work

PERSONAL SAFETY: No protruding edges less than 4 feet high. Limit child use of drawers, doors.

FINISH QUALITY: Washable, durable, and easily maintainable.

LOCATIONAL CRITERIA

LOCATION: Closer to main entry than preschoolers.

ADJACENCY: Toddler toilets, storage, outdoor activity areas, and other age group activity areas.

QUANTITATIVE CRITERIA

AREA: 315 sf min (excluding cubbies, non-play casework)
Recommend: 378 sf (42 sf/child)

OCCUPANCY: 9 toddlers
2 staff

TECHNICAL CRITERIA

SINKS: 2; diapering, other activities.

PARTITIONS: Gypsum with sound insulation.

WALL FINISH: Durable, washable.

FLOORS: Resilient non-skid flooring and commercial grade unpadded carpet.

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc, full-spectrum fluorescent and incandescent with rheostat.

ELECTRICAL: All outlets and switches shall be 4' 0" above finished floor with safety covers, ground fault interrupter (GFI) outlets at water.

WATER: Hot (120° F max) & cold water.

COMMUNICATION SYSTEM: Intercom to office, phone extension.

LIFE SAFETY: Smoke detector.

SIGNAGE: "Toddlers" at interior entrance.

CLIMATE CONTROLS: Locate protected thermostat 36" above finished floor. Protected radiators and HVAC, 10 cfm per person outdoor air supply, additional heat supply in diaper changing and toilet training areas.

HARDWARE: Exterior doors with key operated locks.

TACKABLE WALL: Minimum 8' wide to floor.

FURNISHINGS AND EQUIPMENT

WATER PLAY: Water trough with drain set in counter with rim no higher than 18". Wall mounted paper towel dispenser. A portable 18" high sand and water table may be used as an alternative.

CASEWORK:

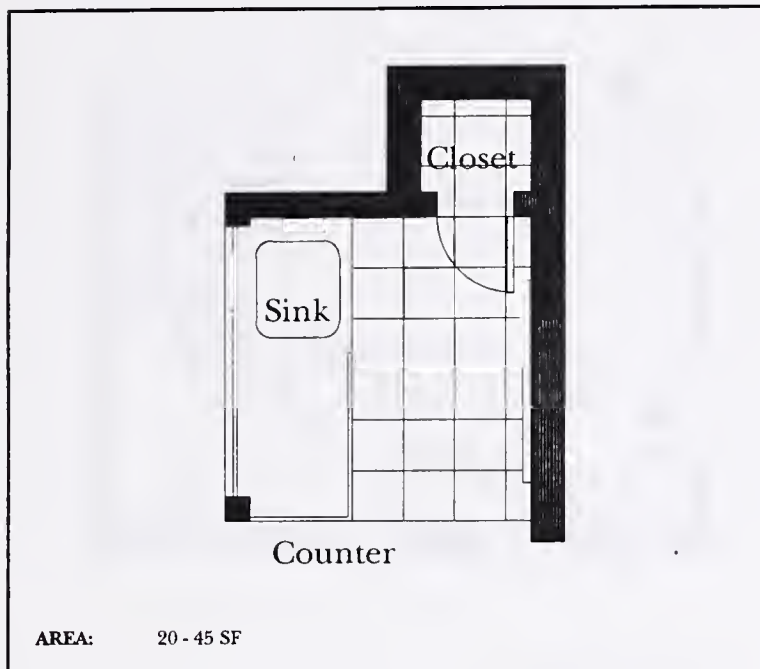
- * 12 lineal feet of upper casework, 36" high x 12" deep
- * 12 lineal feet of lower casework 36" high x 25" deep
- * Diaper counter to have 6" lip.
- * 6 lineal feet of lower casework with 18" high x 25" deep counter (or water play table)
- * Minimum 20 cf lockable cabinet

WASTE HANDLING: movable foot operated soiled diaper storage and one movable covered container with disposable liner.

OTHER:

- * Sign in area near entry
- * Table, height 15" - 20" (adjustable).
- * Easels
- * Mats or cots; mattress & pillows
- * 12 chairs, height 8"-11"
- * Bookshelves (display type) - library
- * Music equipment
- * Play structure
- * Cubbies for all children, & storage

TODDLER DIAPERING AREA



TECHNICAL REQUIREMENTS

1. To insure the safety of the child, the following criteria must be met:
 - The diapering counter must have a 6" lip on counter perimeter so the child does not roll off.
 - No casework above diapering counter.
 - Water temperature cannot exceed 120 degrees F.
2. Flooring will be vinyl tile or some equivalent.
3. Counter must be a durable and easily maintainable surface
4. Waste disposal - child proof and water proof diaper disposal bin, built into casework, operable with one hand.
5. Storage: shelves for diaper storage, allow minimum 1 l.f./child. Lockable drawer storage for plastic bags, powder, creams, etc.

FUNCTIONAL DESCRIPTION

PURPOSE: To provide safe and sanitary space for cleaning and changing the diapers of toddlers.

ACTIVITIES: Cleaning the child and changing diapers.

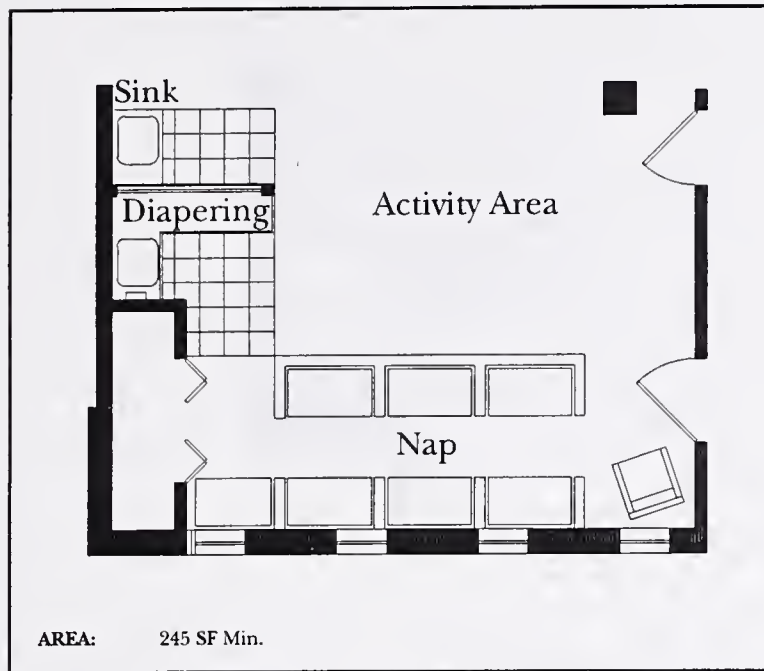
DESIGN CONSIDERATIONS

1. The diapering area must be adjacent to the toddler activity space.
2. The space should be adjacent to other plumbed areas.
3. The counter must be positioned in such a way that the teacher does not have her/his back to the activity area and maintains visibility of the children at all times while diapering.

QUANTITATIVE CRITERIA

AREA: Range: 20 - 45 sf

INFANT ACTIVITY AREA



FUNCTIONAL DESCRIPTION

PURPOSE: Provide a setting conducive to the physical, cognitive, and social development of children through the age of one year, three months.

ACTIVITIES: Sitting, observing, crawling, eating, playing, walking, exploring, climbing, and listening.

QUALITATIVE CRITERIA

ORIENTATION: Self contained with easy access to nap area and outdoor play.

VIEWS: Outdoors: play area, child height windows. Indoors: to other children's activity areas, circulation.

VISIBILITY: All areas continuously visible

PRIVACY: Small nooks and crannies. A semi-private area with rocking chair for nursing mothers.

PERSONAL SAFETY: No protruding counters or edges less than 30" above the finished floor. Limit child use of drawers, doors.

FINISH QUALITY: Washable, durable, and easily maintainable.

LOCATIONAL CRITERIA

LOCATION: Located close to entry and Director's office.

ADJACENCY: Near toddler group, close access to outdoor space.

QUANTITATIVE CRITERIA

AREA: Minimum 245 sf (excluding cubbies and casework)
Recommend: 294 sf (42 sf/child)

OCCUPANCY: 7 infants, 2 staff

TECHNICAL CRITERIA

SINKS: 2; 1 for diapering, 1 for activities.

PARTITIONS: Gypsum with sound control insulation.

WALL FINISH: Durable, washable.

FINISHED FLOORS: Resilient no-skid flooring and plush padded carpet base.

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc, full-spectrum fluorescent and incandescent with rheostat, zoned separately from napping.

ELECTRICAL: All outlets and switches shall be 4' 0" above finished floor with safety covers, ground fault interrupter outlets near water.

WATER: Hot (120° F max) and cold.

COMMUNICATION: Intercom to office, phone extension.

LIFE SAFETY: Smoke detector.

SUPPLIES: Diaper storage, food and paper products, soap, baby powder.

SIGNAGE: "Infants" at interior entrance

CLIMATE CONTROLS: Locate protected thermostat minimum of 36" above floor. Protected radiators and HVAC, 45 cfm fresh outdoor air supply, additional heat and ventilation per occupant. in diaper changing area.

HARDWARE: Exterior doors with key operated locks.

TACKABLE WALL: Minimum 4" wide to floor.

FURNISHINGS AND EQUIPMENT

CASEWORK:

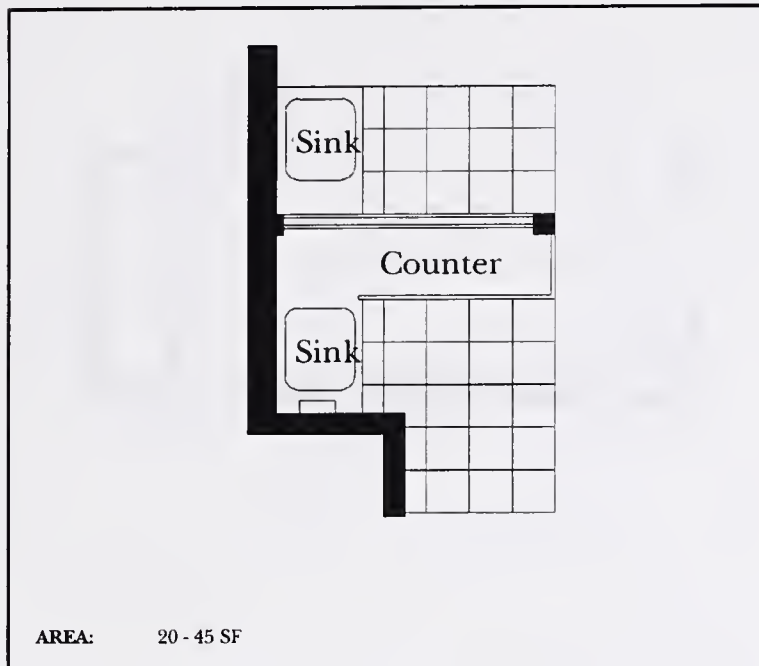
- * 15 lineal feet of upper casework 36" high.x 12" deep
- * 15 lineal feet of lower casework 36" high x 25" deep
- * Diaper counter to have 6" lip
- * 8 Minimum of 20 cf lockable
- * This casework includes cubbies for storing diapers.

WASTE HANDLING: One movable foot operated soiled diaper storage and one movable covered container with disposable liner.

OTHER:

- * Chair height 6" - 10", table height 14" - 16" adjustable.
- * Tables & chairs
- * High chairs
- * Music equipment
- * Play structure
- * Mattress & pillows
- * Cubbies
- * Small refrigerator
- * Microwave

INFANT DIAPERING AREA



QUANTITATIVE CRITERIA

AREA: Range: 20 - 45 sf

FUNCTIONAL DESCRIPTION

PURPOSE: Provide safe and sanitary space for cleaning and changing the diapers of infants.

ACTIVITIES: Cleaning the child and changing diapers.

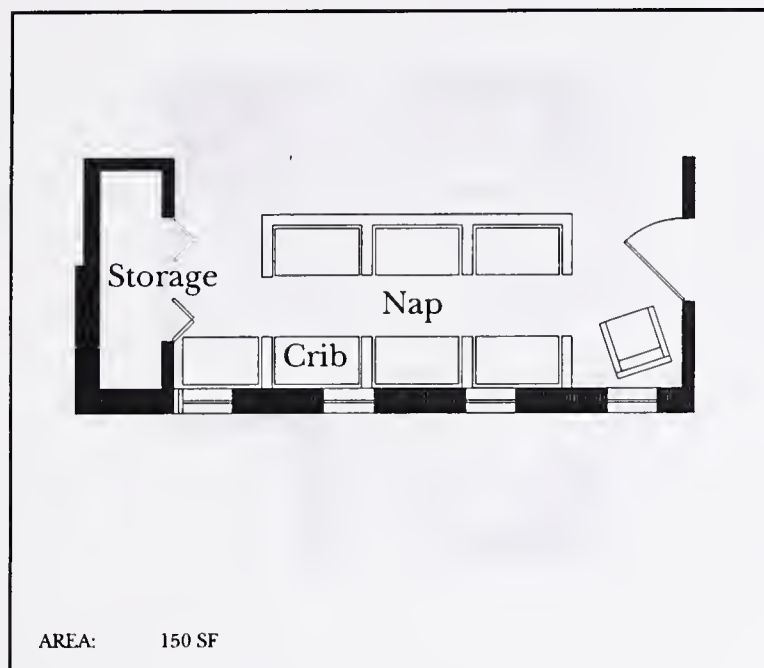
DESIGN CONSIDERATIONS

1. The diapering area must be adjacent to the infant activity and napping space.
2. The space should be adjacent to other plumbed areas.
3. The counter must be positioned in such a way that the teacher does not have her/his back to the activity area and maintains visibility of the children at all times while diapering.
4. Waste disposal - child proof and water proof diaper disposal bin, built into casework, operable with one hand.
5. Storage: shelves for diaper storage, allow minimum 1 l.f./child. Lockable drawer storage for plastic bags, powder, creams, etc.

TECHNICAL REQUIREMENTS

1. To insure the safety of the child, the following criteria must be met:
 - The diapering counter must have 6" lip on counter perimeter so the child does not roll off.
 - No casework above diapering counter.
 - Water temperature cannot exceed 120 degrees F
2. Flooring will be vinyl tile or some equivalent.
3. Counter must be a durable and easily maintainable surface

INFANT NAPPING AREA



FUNCTIONAL DESCRIPTION

PURPOSE: Provide a dedicated space for infant napping and rest.

ACTIVITIES: Sleeping, resting, listening to quiet music.

QUALITATIVE CRITERIA

ORIENTATION: Child-centered, each child with own crib.

VIEWS: Other cribs.

VISIBILITY: All infants in cribs must be visible to and within hearing distance from staff in activity area.

PRIVACY: Suitable for use by 1-7 infants, cribs must be separated by distance or low partitions to prevent disruption of children and spreading of germs.

COMFORT: Thermostat: temp 68 - 72 degrees F, humidity 50% - 55%..

PERSONAL SAFETY: Child-safe.

FINISH QUALITY: Residential, soft.

LOCATIONAL CRITERIA

LOCATION: In infant area.

ADJACENCY: Infant activity, diapering.

QUANTITATIVE CRITERIA

AREA: Approximately 150 sf, varies with crib layout.

OCCUPANCY: 7 infants

DISTANCE BETWEEN CRIBS: 2' minimum between cribs, and 3' minimum for "aisle" access between cribs. Cribs which are divided by partitions are not required to have the distance separation

TECHNICAL CRITERIA

PARTITIONS: Low (3' 6") so as to separate from infant activity, but not from adult view.

WALL FINISH: Durable washable wall covering.

FLOORS: Carpet (glued down) with commercial pile.

CEILINGS: Acoustical Treatment

LIGHTING: 20 - 40 fc incandescent with rheostat; outlets 36" above floor with safety outlet covers.

COMMUNICATION SYSTEM: Intercom to office, phone extension (in infant activity area).

CONTROL SYSTEMS: Smoke detector.

SIGNAGE: "Infant Napping".

FURNISHINGS AND EQUIPMENT

WASTE HANDLING: Waste basket.

OTHER:

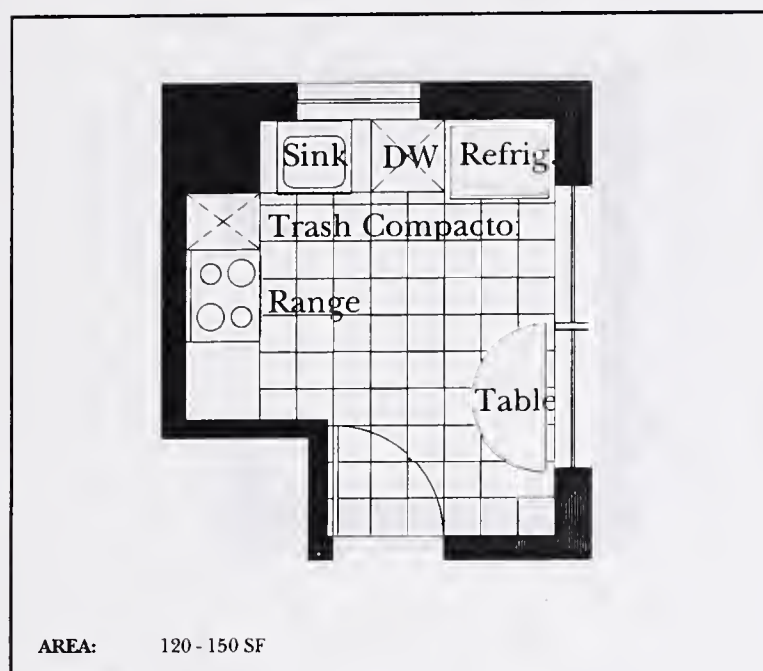
* Porta- cribs are 24" - 27" x 42" - 45", two of the cribs to be heavy duty with casters for emergency evacuation.

* Shelving (not above cribs) for storing tissues, books, children's blankets & toys - etc.

* Ceiling hook(s) for mobiles.

* Rocking chair

KITCHEN



FUNCTIONAL DESCRIPTION

PURPOSE: For preparation of meals and snacks and support space for child care center functions.

ACTIVITIES: Cooking.

QUALITATIVE CRITERIA

ORIENTATION: Adult.

VIEWS: Outdoors if possible, into hallway.

VISIBILITY: Control and visibility into kitchen from interior of child care center.

PRIVACY: Must be secured by a lockable door.

COMFORT: Vent stove, operable window if possible.

PERSONAL SAFETY: Avoid corners on casework, provide lockable door or gate so child access is prevented without adult supervision. Provide fire extinguisher.

FINISH QUALITY: Washable, durable, and easily maintainable surfaces.

LOCATIONAL CRITERIA

LOCATION: On outdoor wall if possible and as central in child care center as possible.

ADJACENCY: Other functions requiring plumbing, pre-school area.

QUANTITATIVE CRITERIA

AREA: Range: 120 - 150 sf.

TECHNICAL CRITERIA

PARTITIONS: Gypsum Smoke Barrier one hour rated or sprinklered partitions if in I-2 use child care center.

WALL FINISH: Durable washable paint.

FLOORS: Resilient flooring and base.

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc.

COMMUNICATION SYSTEM: Intercom, telephone.

CONTROL SYSTEMS: Heat detector.

SUPPLIES: Paper storage (paper cups, napkins, paper towels, eating utensils, and plates), one month storage for food supplies (crackers, cookies, juice, and other drink containers).

SIGNAGE: "Kitchen" at interior entrance.

ELECTRIC: 220v as required with 110v elsewhere.

ELECTRICAL OUTLETS: Child-proof with integral outlet covers (GFI outlets adjacent to sink).

CLIMATE CONTROLS: Protected thermostat and HVAC, with additional ventilation

FURNISHINGS AND EQUIPMENT

TACKBOARD: 16 sf minimum.

DISHWASHER: Under counter mounted with integral booster heater.

REFRIGERATOR: Residential type, minimum 22 cubic feet with frost free freezer section.

STOVE: Residential type, with override switch.

SINK: Deep, double stainless steel sink.

WASTE HANDLING: Covered movable containers, trash compactor, and garbage disposal.

EQUIPMENT ALTERNATIVE: For an independent child care center building with fully cooked meals program, the kitchen equipment should be commercial grade.

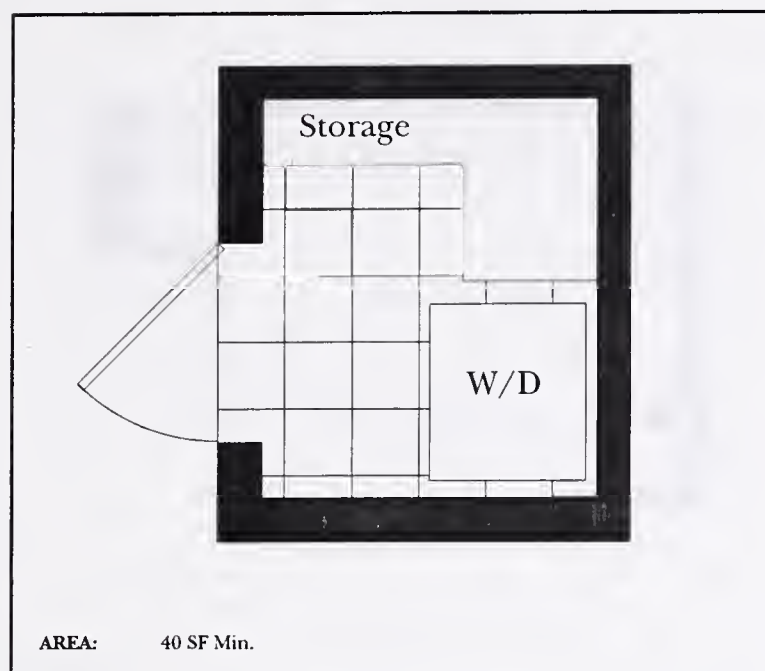
OTHER:

* Counter height at 36" above finished floor, a portion at 24" for child use

* Table & chairs for adults - seating for 4 adults minimum.

* Food carts

LAUNDRY/STORAGE



FUNCTIONAL DESCRIPTION

PURPOSE: Provide equipment to launder linens used in the center, and occasionally, children's clothing.

ACTIVITIES: Washing, drying, and folding laundry.

QUALITATIVE CRITERIA

ORIENTATION: Self-contained.

PRIVACY: Limited (off corridor), behind walls and doors.

PERSONAL SAFETY: Secure space and equip. from children, provide door lock.

FINISH QUALITY: Non-porous and easy to clean.

LOCATIONAL CRITERIA

LOCATION: Central.

ADJACENCY: Other plumbed fixtures, near outside wall for dryer venting.

QUANTITATIVE CRITERIA

AREA: Minimum 40 sf

TECHNICAL CRITERIA

PARTITIONS: Gypsum, insulated for sound control.

WALL FINISHES: Durable washable paint.

FLOORS: Resilient flooring with drain or provision for washer overflow.

CEILINGS: Acoustical Treatment

LIGHTING: 70 fc fluorescent.

ELECTRIC: 220v as required with 110v elsewhere.

CLIMATE CONTROLS: Space ventilation

SUPPLIES: Laundry supplies (soap, bleach, etc.) in lockable cabinet.

SIGNAGE: "Laundry" at interior entrance.

FURNISHINGS AND EQUIPMENT

CASEWORK: Deep laundry sink. 4 lineal feet 36" high by 24" deep laundry counter

MOVEABLE: Full size top loading washer, and front loading dryer, water proof waste container, and other storage units.

Introduction



The purpose of this document is to provide a comprehensive overview of the project's objectives, scope, and deliverables. This section will outline the key goals and the expected outcomes of the project.

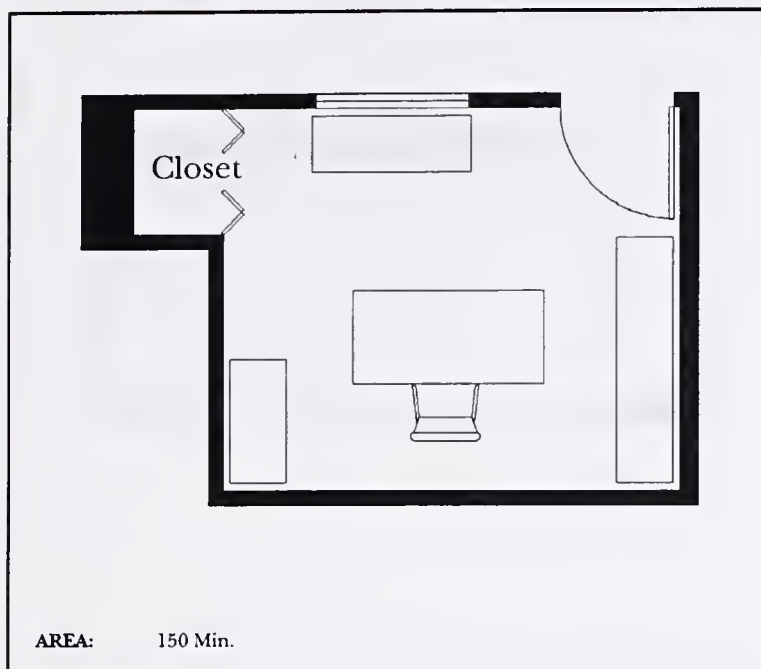
The project is designed to address the current challenges faced by the organization and to implement a solution that will improve efficiency and reduce costs. The following sections will detail the project's scope, timeline, and the roles of the various stakeholders involved.

The project will be managed using a structured approach that includes regular communication and reporting. The project manager will ensure that all team members are aligned with the project's goals and that the project is completed on time and within budget.

The project's success will be measured by the achievement of its key performance indicators (KPIs). These KPIs will be monitored throughout the project to ensure that the project is on track and that any issues are identified and resolved promptly.

The project team consists of several key members, each with specific responsibilities. The project manager will lead the team and ensure that all tasks are completed on time. The team will also include subject matter experts who will provide guidance and support throughout the project.

ADMINISTRATION OFFICE



FUNCTIONAL DESCRIPTION

PURPOSE: To provide a reception area for visitors, a resource and work area for staff, a secretarial area, a first aid station, and meeting place for parents.

ACTIVITIES: Desk work, maintaining files, monitoring building entry/exit traffic.

QUALITATIVE CRITERIA

ORIENTATION: Visible outward focus.

VIEWS: Building entry, entry corridor, activity spaces and outdoors if possible.

IDENTITY: Adult area.

FINISH QUALITY: Commercial

LOCATIONAL CRITERIA

LOCATION: Near front entrance.

ADJACENCY: Front door, directors office, close to activity areas, especially infants, and adult toilets.

QUANTITATIVE CRITERIA

AREA: Minimum 150 sf.

TECHNICAL CRITERIA

PARTITIONS: Gypsum, insulated for sound control.

WALL FINISH: Durable washable paint.

FLOORS: Commercial grade carpet and base glued down.

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc non-fluorescent with rheostat.

COMMUNICATION SYSTEM: Telephone and intercom.

LIFE SAFETY: Smoke detectors.

SIGNAGE: "Administration Office" at interior entrance.

ELECTRICAL: All outlets with safety covers.

CLIMATE CONTROLS: Protected thermostat, control radiators, and HVAC.

FURNISHINGS AND EQUIPMENT

CASEWORK:

- * Mailboxes
- * work counter
- * individual lockable storage area for each employee.

WASTE HANDLING: Waste basket.

COPY MACHINE: Counter-top model.

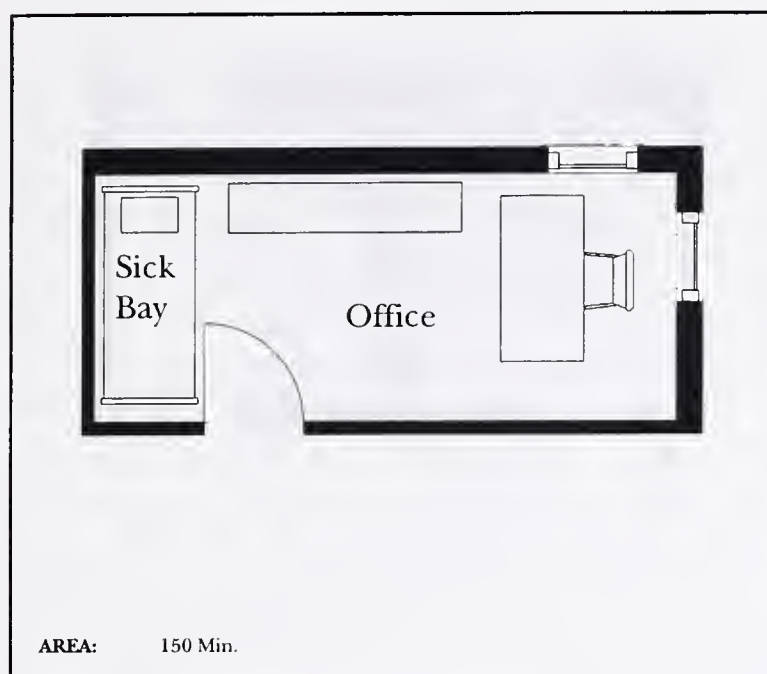
STORAGE:

- * Two lockable four drawer filing cabinets
- * Two desks to have at least one file drawer each
- * Coat storage, preferably a closet
- * Lockable first aid supplies.

OTHER:

- * Table and 6-8 stackable chairs for small meetings and conferences
- * 16 sf tackable surface

DIRECTOR'S OFFICE & SICK BAY



FUNCTIONAL DESCRIPTION

PURPOSE: To provide a private place for director or head teacher to prepare paperwork, make phone calls, and hold small conferences.

ACTIVITIES: Desk work, maintaining files, counseling teachers/parents/children, occasional caring for sick children.

QUALITATIVE CRITERIA

ORIENTATION: Private.

VIEWS: Into administration office, hallway, and outdoors if possible.

PRIVACY: Sound control, and visual privacy.

IDENTITY: Adult space with a small child area.

FINISH QUALITY: Commercial.

LOCATIONAL CRITERIA

LOCATION: Near front entrance.

ADJACENCY: Front door, directors office, close to activity areas, especially infants, and adult toilets.

QUANTITATIVE CRITERIA

AREA: Minimum 100 sf.

TECHNICAL CRITERIA

PARTITIONS: Gypsum board with sound control insulation.

WALL FINISH: Durable washable paint.

FLOORS: Commercial grade carpet and base, (glued down).

CEILINGS: Acoustical Treatment.

LIGHTING: 70 fc non-fluorescent with rheostat and separate switch for sick bay area.

ELECTRICAL: All outlets with safety covers.

CLIMATE CONTROLS: Protected thermostat control, radiators, and HVAC.

COMMUNICATION SYSTEM: Telephone and intercom.

CONTROL SYSTEMS: Alarm control boxes.

SIGNAGE: "Director" at interior entrance.

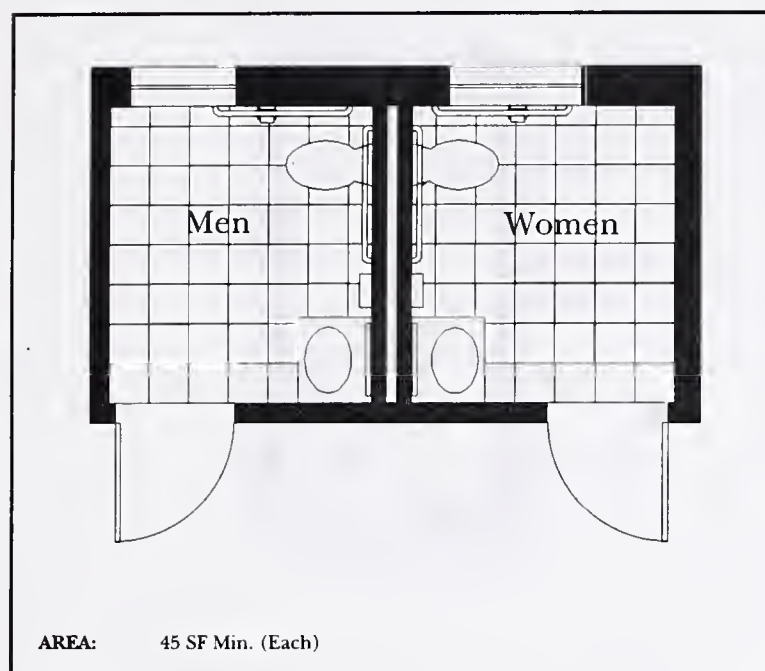
FURNISHINGS AND EQUIPMENT

WASTE HANDLING: Waste basket.

OTHER:

- * Table and chairs for small meetings
- * Cot for sick child
- * Desk
- * Office equipment
- * Book cases
- * Filing cabinets
- * Wall mounted clock

ADULT TOILETS



FUNCTIONAL DESCRIPTION

PURPOSE: To provide sanitary facilities for adult staff, parents and guests.

ACTIVITIES: Personal hygiene.

QUALITATIVE CRITERIA

ORIENTATION: Adults, one room each for males and females.

PRIVACY: Provide locks (barrier free design and above child height).

COMFORT: Residential character, designed in compliance with Architectural Access Board and ADA requirements.

PERSONAL SAFETY: Hot water not to exceed 120° F.

FINISH QUALITY: Commercial.

LOCATIONAL CRITERIA

LOCATION: Central.

ADJACENCY: Corridor, near other plumbed rooms, adult spaces.

QUANTITATIVE CRITERIA

EACH RESTROOM

AREA: 45 sf.

NUMBER OF STALLS: 1

DIMENSIONS: 6' 0" x 7' 6" minimum

TECHNICAL CRITERIA

PARTITIONS: Gypsum board

WALL FINISH: Washable tile or paint.

FLOORS: Resilient floor and base.

CEILINGS: Acoustical Treatment

LIGHTING: 50 fc incandescent with light over sink.

ELECTRICAL: Ground fault interrupter outlet.

CLIMATE CONTROLS: HVAC and ventilation with exhaust fan.

SIGNAGE: "Men" and "Women" (one for each restroom)

FURNISHINGS AND EQUIPMENT

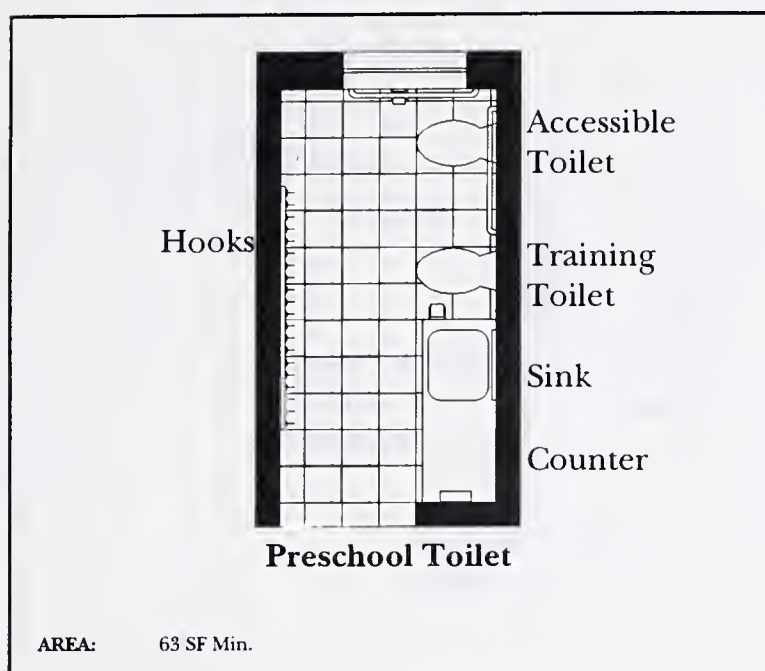
OTHER:

- * Barrier free lavatory and water closet
- * Sanitary supply dispenser and disposal units in female
- * Trash dispenser
- * Paper towel dispenser
- * Soap dispenser
- * Double toilet paper dispenser
- * Coat hook
- * Mirror
- * Shelf
- * Grab bars

PERMITS AND APPROVALS

HANDICAPPED ACCESSIBLE: As regulated by the Massachusetts Architectural Access Board and the Americans with Disabilities Act.

CHILDREN'S TOILETS



FUNCTIONAL DESCRIPTION

PURPOSE: To provide sanitary facilities for children.

ACTIVITIES: Personal hygiene, toilet training for toddlers.

QUALITATIVE CRITERIA

ORIENTATION: Child-scale.

VIEWS: From lavatory, view into classroom.

VISIBILITY: All areas visible to staff at all times.

PRIVACY: Adults view over 3' 6" high maximum partition.
No doors on stalls.

COMFORT: Residential character, designed as possible in compliance with Architectural Access Board requirements.

PERSONAL SAFETY: Provide light switch above child's reach, ground fault interrupter outlets, and water temperature not to exceed 120 degrees F.

FINISH QUALITY: Durable and washable surfaces.

LOCATIONAL CRITERIA

LOCATION: In activity areas.

ADJACENCY: Toddler and preschool activity areas, toddler diapering area, other plumbed spaces.

QUANTITATIVE CRITERIA

PRESCHOOL:

AREA: 63 sf.

NUMBER OF STALLS: 2

DIMENSIONS: 6' 0" x 10' 3" minimum

TODDLER:

AREA: 45 sf.

NUMBER OF STALLS: 1

DIMENSIONS: 6' 0" x 7' 6" minimum

TECHNICAL CRITERIA

PARTITIONS: Gypsum with wood or plastic laminated cap.

WALL FINISH: Durable washable paint.

FLOORS: Resilient flooring and base.

CEILINGS: Acoustical Treatment.

LIGHTING: 40 - 50 fc fluorescent

WASTE HANDLING: Covered water-proof waste basket.

SIGNAGE: "Toilet"

FURNISHINGS AND EQUIPMENT

TOILETS:

- * 10" height toilet seat in preschool area
- * 10" height toilet in toddler area
- * Double toilet paper dispenser with turning pin locks
- * Grab bars

SINK:

- * Sink height no higher than 20" to rim from floor in preschool area
- * Sink height no higher than 18" to rim from floor in toddler area

OTHER:

- * Exhaust fan
- * Hose bib
- * Floor drain at preschool toilet
- * Mirror (child height)
- * Wall mounted toothbrush and toothpaste storage for each child with name label
- * Clothes hook on wall (33" high for toddlers, 36" high for preschoolers) for wash clothes or coats.
- * Paper towel dispenser
- * Soap dispenser

PERMITS AND APPROVALS

HANDICAPPED ACCESSIBLE: As regulated by the Massachusetts Architectural Board and the Americans with Disabilities Act. Variance required for child height modification.

ORIGINAL ARTICLES

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BY
DR. J. H. HARRIS

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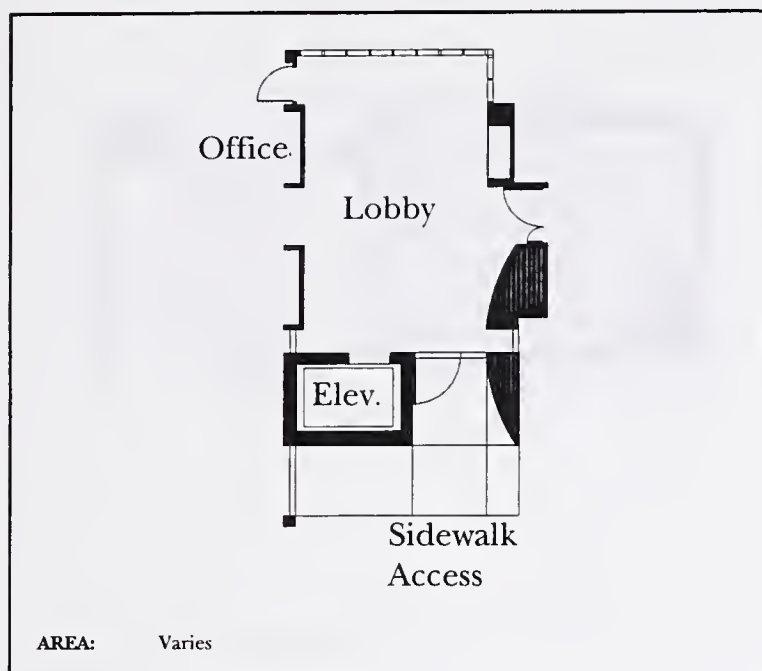
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ENTRANCE LOBBY



FUNCTIONAL DESCRIPTION

PURPOSE: To provide a circulation and socializing space for children, parents, and staff entering or leaving building; environmental control between building and outdoors; and storage of carriages and car seats.

ACTIVITIES: Waiting, sitting and casual social interactions.

QUALITATIVE CRITERIA

ORIENTATION: Transition to and from child care setting.

VIEWS: Parking, drop-off, and administration office.

PERSONAL SAFETY: Non-slip floor, self closing door (hardware at 4'2" inside door to minimize children from leaving unauthorized).

FINISH QUALITY: Commercial grade, residential character.

LOCATIONAL CRITERIA

LOCATION: Close to drop-off and walkway.

ADJACENCY: Vestibule, director or administration offices, and restrooms.

QUANTITATIVE CRITERIA

AREA: Varies from 150 sf. to 200 sf.

TECHNICAL CRITERIA

PARTITIONS: Gypsum.

WALL FINISH: Durable washable paint.

FLOORS: Resilient flooring, entrance grill, skid-proof with recessed frame to catch dirt, water, snow or similar near door or in vestibule).

CEILINGS: Acoustical Treatment.

LIGHTING: 50 fc non-fluorescent with rheostat.

ELECTRICAL: Outlets with safety covers.

CLIMATE CONTROLS: Protected thermostat, radiator, and HVAC, airlock separation from outside.

COMMUNICATION SYSTEM: Speaker.

LIFE SAFETY: Alarm on front door which sounds when door opens and smoke detectors.

SIGNAGE: "Exit" in interior.

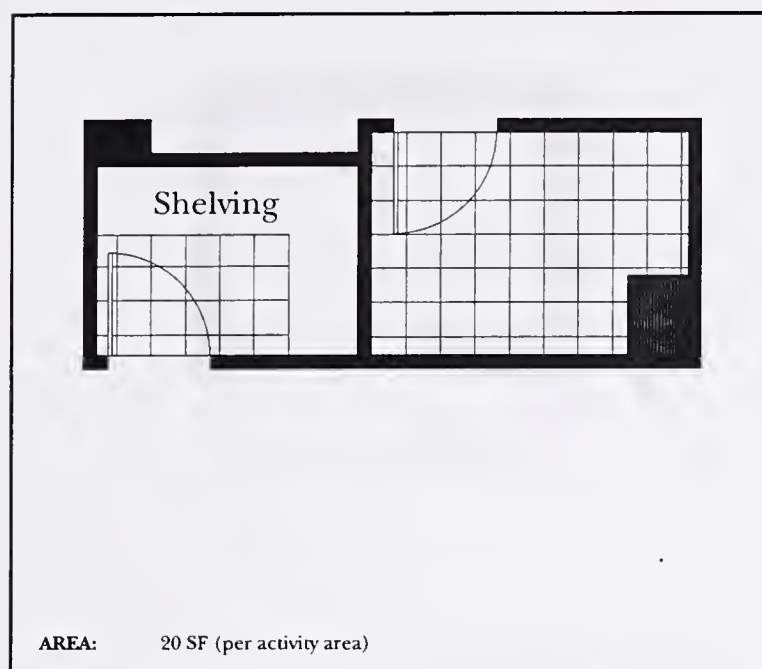
FURNISHINGS AND EQUIPMENT

WASTE HANDLING: Waste basket.

OTHER:

- * Benches at child and adult height (i.e. 12" and 18")
- * Clock near sitting area
- * Tack boards for administrative notes and display

STORAGE ROOMS



FUNCTIONAL DESCRIPTION

PURPOSE: Provide storage for toys, teaching supplies (art, paper), learning materials (kits, games), bulky materials, linens (throw covers, dish towels, dish cloths, and disposable paper products).

ACTIVITIES: Storing.

QUALITATIVE CRITERIA

ORIENTATION: Support space.

PERSONAL SAFETY: Provide key lock.

FINISH QUALITY: Durable.

TECHNICAL CRITERIA

PARTITIONS: Gypsum

WALLS: Painted.

FLOORS: Vinyl tile.

LIGHTING: From adjacent space unless deeper than 3'.

SIGNAGE: "Storage"

CASEWORK: Shelving with track to adjust shelf height.

LOCATIONAL CRITERIA

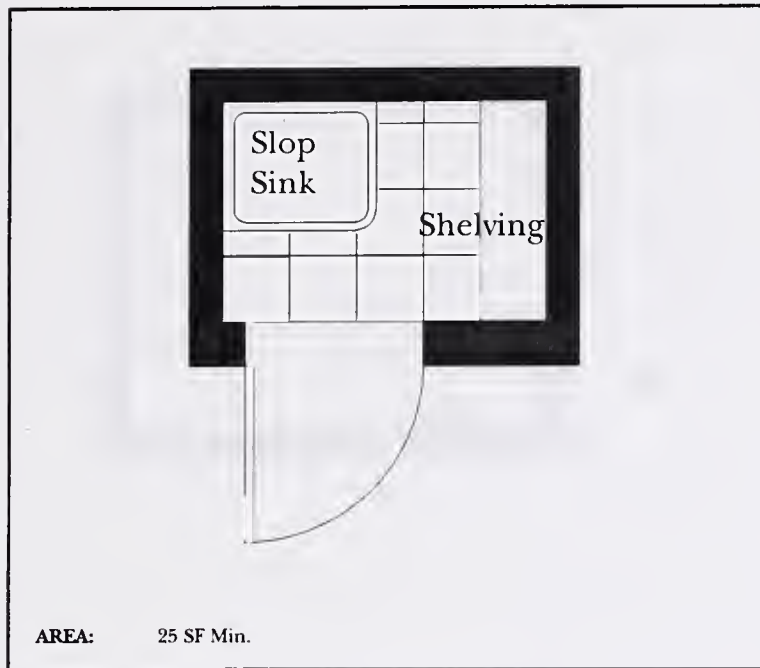
LOCATION: Scattered throughout the building.

ADJACENCY: Various.

QUANTITATIVE CRITERIA

AREA: Varies, 20 sf min/per activity space.

CUSTODIAL AREA



FURNISHINGS AND EQUIPMENT

WASTE HANDLING: Rolling disposal bins.

OTHER: Deep floor mounted slop sink with hot and cold water faucet and hooks on wall.

FUNCTIONAL DESCRIPTION

PURPOSE: To provide storage for custodial supplies, equipment and a small custodial work space.

ACTIVITIES: Rinsing mops and small repair.

QUALITATIVE CRITERIA

PRIVACY: Lock on door and an interior supply cabinet with lock.

PERSONAL SAFETY: Child proof

FINISH QUALITY: Non-porous, commercial grade.

LOCATIONAL CRITERIA

LOCATION: Centrally located.

ADJACENCY: Near other plumbed fixtures.

QUANTITATIVE CRITERIA

AREA: Minimum 25 sf

TECHNICAL CRITERIA

PARTITIONS: Gypsum wall board.

WALL FINISH: Durable washable paint.

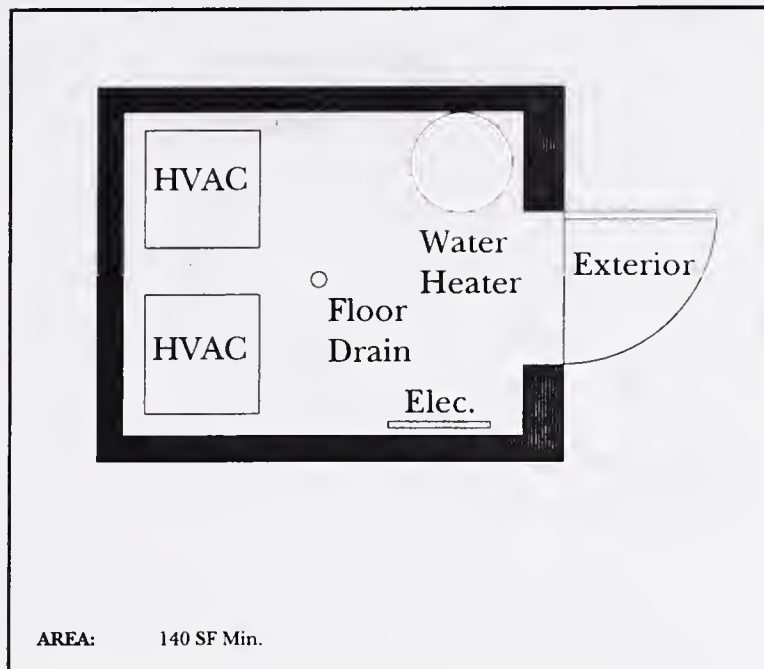
FLOORS: Resilient acid resistant flooring.

LIGHTING: 50 fc fluorescent.

SUPPLIES: 1 foot deep shelves with lockable 1 foot deep cabinet for toxic supplies.

SIGNAGE: "Custodian" at interior entrance.

MECHANICAL/ELECTRICAL



QUANTITATIVE CRITERIA

AREA: Minimum 140 sf

FURNISHINGS AND EQUIPMENT

CASEWORK:

- * Work table and chair with vise
- * Shelf (s) above.

OTHER:

- * Boiler
- * Electrical panels
- * Fire control panel
- * Electrical outlets
- * HVAC units

FUNCTIONAL DESCRIPTION

PURPOSE: To house HVAC and/or electrical equipment and control panels.

ACTIVITIES: Maintaining mechanical/electrical systems and performing minor repairs.

QUALITATIVE CRITERIA

PRIVACY: Locking hardware on door. and acoustic seal.

PERSONAL SAFETY: Intercom.

FINISH QUALITY: Industrial

TECHNICAL CRITERIA

PARTITIONS: Two hour fire separation between abutting rooms. or one hour if a sprinkler system is provided.

WALLS: Washable paint.

FLOORS: Concrete floor with drain.

CEILINGS: Acoustical treatment.

LIGHTING: 50 - 100 fc fluorescent with dimmer switch.

OUTLETS: Minimum 36" above floor with integral outlet covers.

COMMUNICATION SYSTEM: Intercom.

CONTROL SYSTEMS: Smoke detectors.

SIGNAGE: "Mechanical Room", "Electrical Room".

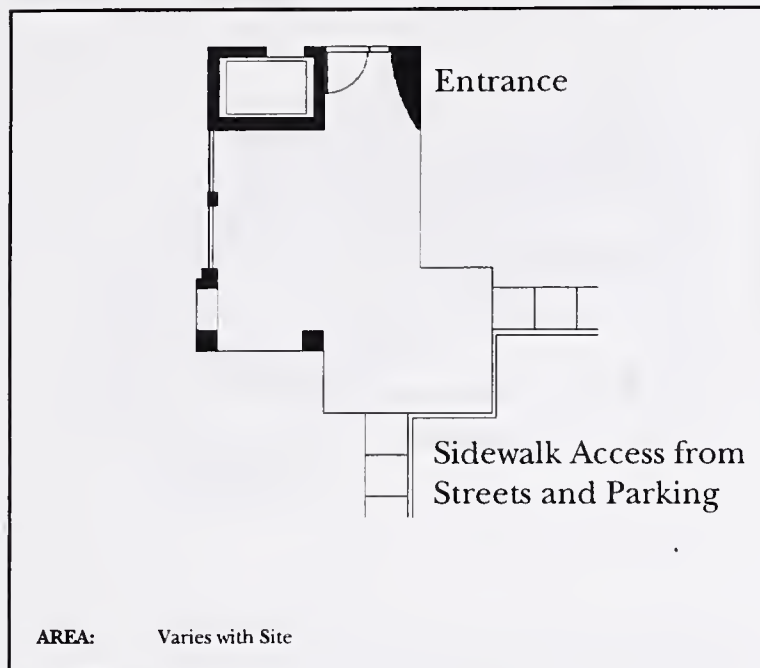
LOCATIONAL CRITERIA

LOCATION: Avoid conflicts with instructional space.

ADJACENCY: If steam is used, locate next to supply.



SITE AND BUILDING ACCESS



FUNCTIONAL DESCRIPTION

PURPOSE: To provide safe and pleasant access for children, staff and parents to the child care center.

ACTIVITIES: Temporary parking for dropping off children, permanent staff parking, watching for parents, conversations among parents.

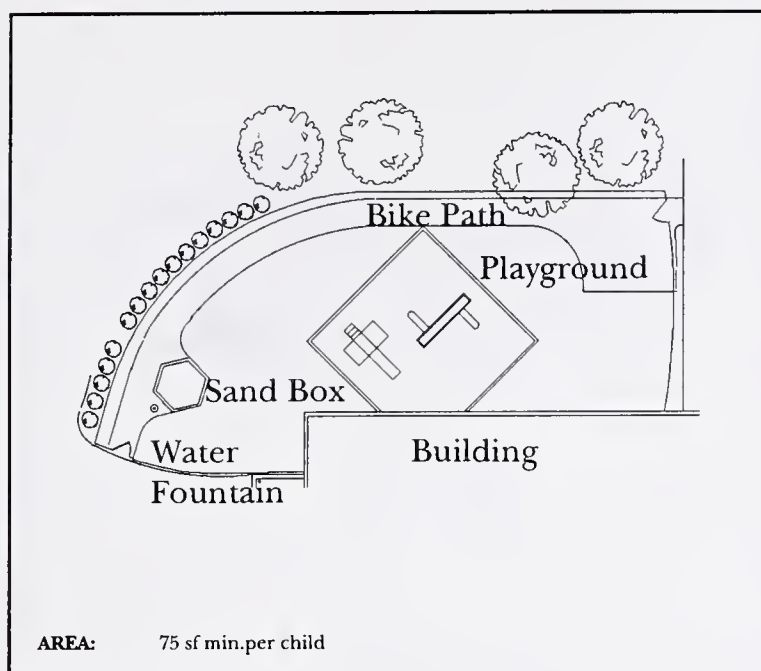
DESIGN CONSIDERATIONS

1. The space at the building entrance should create a clear, pleasant approach at a scale appropriate for children as well as adults.
2. The access from the parking and drop-off to the building should be barrier free.
3. The drop-off area should accommodate at least two cars, allow children to reach the building without crossing the street, and allow cars to pull out of the main traffic conveniently.
4. The site should be well lit from the building to the parking area.
5. A small sitting area should be included at the entrance for parents and children waiting.

TECHNICAL REQUIREMENTS

1. Vehicular paving, curbs with ramp.
2. Site lighting at vehicular and pedestrian scale.
3. Pavement and Entrance ramp with handrails as required by Mass. Architectural Access Board.
4. Non-toxic planting with textural and seasonal interest.

OUTDOOR PLAY AREA



TECHNICAL REQUIREMENTS

1. Handicapped access to the play areas.
2. Resilient surface under and around play equipment. It varies with type of equipment.
3. Outdoor storage for bulky play items and maintenance equipment should be adjacent.
4. Non-toxic planting with textural and seasonal interest.
5. Water fountain.
6. Trash receptacles.
7. Scale and risk level of equipment should be appropriate for age group.
8. Play equipment should be safe, well designed and commercially available.
9. The play area should be enclosed with a 4' high fence.

FUNCTIONAL DESCRIPTION

PURPOSE: To support cognitive and creative play, full-body activity, group and quiet play in safe outdoor setting.

ACTIVITIES: Sliding, swinging, climbing, riding 3-wheel toys, group play, creative play with sand and water, building blocks, quiet relaxing, and gardening.

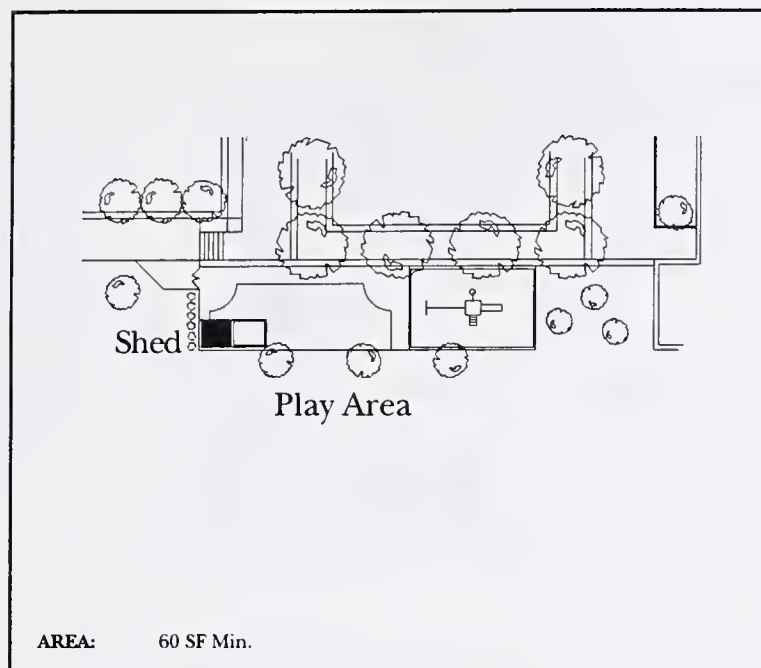
DESIGN CONSIDERATIONS

1. There should be a variety of spaces that support activities, wide open space for group games as well as private places for 2 or 3 children. Age groups should be separate but adjacent so children can watch each other.
2. Paving for 3-wheeled toys and blocks should be included.
3. Provision should be made for water play, including hose bib and drain if necessary.
4. Circulation should be designed so that there is a logical and entertaining sequence of events. Active play areas should have adjacent quiet areas for children to observe the active play.
5. The play area should have a balance of sun and shade.
6. The outdoor play area should have convenient access to indoor toilets and drinking fountain.
7. The play area should be placed as far away as possible from noise, and noxious or odorous fumes.

QUANTITATIVE CRITERIA

1. 75 SF per child playing at one time
2. One area per age group is desired.

EXTERIOR STORAGE SHED



TECHNICAL CRITERIA

WALLS: No protrusions.

FLOORS: Concrete.

LIGHTING: 30-40 fc or natural.

FURNISHINGS AND EQUIPMENT

MOVEABLE: Shelves and hooks.

FUNCTIONAL DESCRIPTION

PURPOSE: To store outdoor play and maintenance equipment.

ACTIVITIES: Storing.

QUALITATIVE CRITERIA

ORIENTATION: Support for play area.

PRIVACY: Provide locking hardware.

IDENTITY: Child-scale.

FINISH QUALITY: Colorfull, durable, easily maintainable, paintable.

LOCATIONAL CRITERIA

LOCATION: Outside of building either attached or separate.

ADJACENCY: To other play area(s)

QUANTITATIVE CRITERIA

AREA: 60 sf minimum

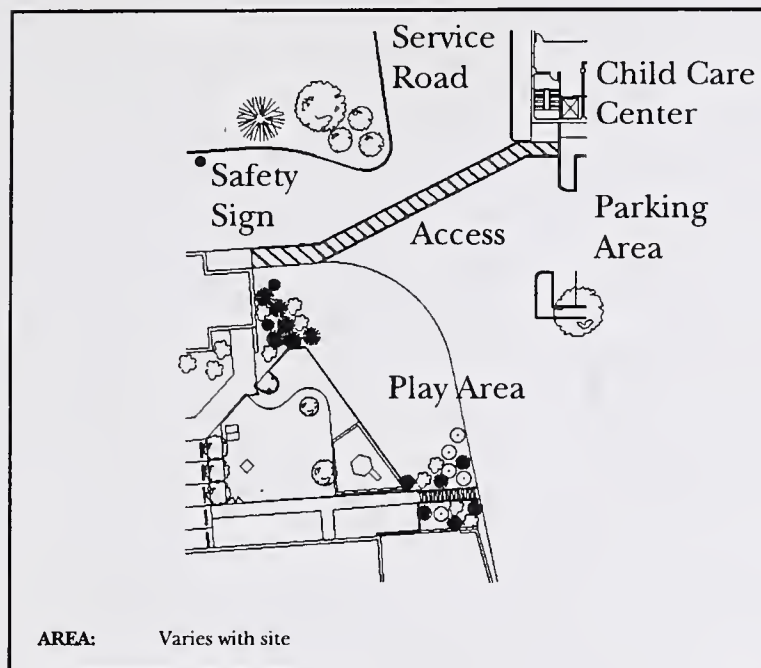
NUMBER OF SPACES: One.

HEIGHT: 8'

WIDTH: 5' minimum.

DEPTH: 5' minimum.

ACCESS TO REMOTE OUTDOOR PLAY AREA



FUNCTIONAL DESCRIPTION

PURPOSE: To provide safe access, and wheelchair accessibility, for children, staff and parents to a remote child care center outdoor play area.

ACTIVITIES: Walking or riding in supervised manner from Child Care Center to designated outdoor play area.

DESIGN CONSIDERATIONS

1. The access from the building's exterior door to the outdoor play area should be safe and barrier free.
2. The site and play area should be well lit. for access and safety reasons.

TECHNICAL REQUIREMENTS

1. Wheelchair accessible pavement, ramp, and rails as required by Massachusetts Architectural Access Board.
2. Child height rails at exterior stairs used as part of access path.
3. Guard rails at retaining walls along the access path.
4. Site lighting at pedestrian scale.
5. Protection from existing toxic plantings (if any) along access routes between the building to the fenced area of play.
6. Protection from moving vehicles at parking lot and road areas.
7. Orientation and safety signs.

